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THE ORAL ADMINISTRATION OF DERIVATIVES OF CHAULMOOGRA OIL IN LEPROSY

By N. E. WAYSON, *Surgeon*, and L. F. BADGER, *Assistant Surgeon, United States
Public Health Service*

For several centuries leprosy has been treated by the administration of chaulmoogra oil or allied oils, and latterly by their derivatives. The adoption of the derivatives in treatment has been stimulated by the desire to obtain the potent elements of the oil in more concentrated or therapeutically active form, with the hope of increasing and hastening the curative effects, and by the necessity for obtaining a preparation which can be administered over a long period without untoward results on the general health or comfort of the patient. The oils, in most cases, are very irritating to the gastrointestinal tract. Some persons tolerate them well.

The use of the esters or soaps of the oils is believed by several observers to be attended with good therapeutic results, when given by injection into the veins or muscles or subcutaneously. However, these intravenous treatments with esters or soaps are accompanied by considerable potential danger to the patient, either by immediate accidents or by the damage to his veins. The intramuscular injection of the esters over long periods is frequently interrupted by local inflammatory reactions. The discomfort to the patient of injection treatments carried forward through one to four years is apparent, and seems to be warranted only when the medicinal remedy is relatively specific or restorative of function. Practically all observers agree that the treatment must continue over long periods in order to accomplish the arrest of the disease. The degree of restoration of function depends naturally upon the degree of degeneration reached in the nerves, bones, and blood vessels, and upon their power of regeneration.

The specificity of the medicaments is still sub judice, and their pharmacology undetermined.

Under these circumstances it seems desirable to make further efforts to obtain preparations of the esters or soaps of the oils, which

can be taken by mouth, since their use has been regarded so promisingly by some observers.

Denney¹ and others have attempted recently to reduce the irritant effect of the oil on the gastrointestinal tract, and locally when injected intramuscularly, by the addition of a drug with local anesthetic properties. They have not used the method for a sufficiently long period of time to warrant conclusions as to its therapeutic efficacy.

A preparation of the esters which can be given by mouth has been used by us for the past six months on 25 patients without discomfort to the patient, and without noticeable gastrointestinal symptoms.

The preparation is an emulsion in acacia and simple sirup of equal parts of the mixed esters of chaulmoogra oil, and of cod-liver oil to which iodine is added to make six one-hundredths per cent. The detail of manufacture is as follows: No. 1—Dissolve 0.625 gram iodine in 250 cubic centimeters esters and heat at 100° C. for one-half hour. Cool and add 250 cubic centimeters cod-liver oil. Add 60 grams of powdered gum acacia and mix thoroughly. No. 2—Dissolve 65 grams gum acacia in 250 cubic centimeters cold water and when dissolved add 100 cubic centimeters of cane sirup (made by making a saturated solution of sugar in water at 100° C. and then cooling). Add enough water to make a volume of 430 cubic centimeters. Pour No. 1 into No. 2 and beat with egg beater until emulsified, then add slowly 70 cubic centimeters 95 per cent alcohol while continuing to beat. The mixture is of about the same consistency as that of the U. S. P. emulsion of cod-liver oil, remains emulsified, and apparently does not deteriorate during periods of six weeks at room temperature.

The dosage has been given daily. The amount of the dose has been started at 1 or 2 cubic centimeters of the mixture (one-quarter to one-half cubic centimeter of the esters) and gradually increased. Tentatively the maximum dosage to be used has been set at 10 cubic centimeters of esters per week per hundred pounds weight of patient.

A few cases have interrupted their dosage for a day or two because of vomiting, but invariably they have found that the adjustment of the time of the dose in relation to their breakfast was all that was necessary. Some take the dose before breakfast and others after the meal. Several state that they have some eructation in which they taste the cod-liver oil until the next meal.

The efficiency of the treatment is not under consideration at this time; but the method of preparing the dose to be given by mouth is reported in order that it may be improved upon, or tried by others, and its therapeutic value thereby determined more definitely after a sufficient length of time of its use has elapsed.

¹ O. E. Denney; National Leper Home—Review of the more important activities during the fiscal year ended June 30, 1927. Pub. Health Rep., vol. 43, No. 14 (Apr. 6, 1928), pp. 810-818.

STATE AND INSULAR HEALTH AUTHORITIES, 1928

DIRECTORY, WITH DATA AS TO APPROPRIATIONS AND PUBLICATIONS

Directories of the State and insular health authorities of the United States for each year from 1912 to 1927 have been published in the Public Health Reports¹ for the information of health officers and others interested in public-health activities. The present volume (1928), like those formerly issued, has been compiled from information furnished by the respective State and insular health officers, and includes data as to appropriations and publications.

Where an officer has been reported to be a "whole-time" health officer, that fact is indicated by an asterisk (*). For this purpose a "whole-time" health officer is defined as "one who does not engage in the practice of medicine or in any other business, but devotes all of his time to official duties."

ALABAMA

Board of censors of the State medical association acting as a committee of public health:

Bibb Graves, governor, ex officio chairman, Montgomery.

J. N. Baker, M. D., Montgomery.

W. D. Partlow, M. D., Tuscaloosa.

R. S. Hill, M. D., Montgomery.

W. S. Britt, M. D., Eufaula.

D. T. McCall, M. D., Mobile.

W. W. Harper, M. D., Selma.

John P. Stewart, M. D., Attalla.

J. S. McLester, M. D., Birmingham.

B. L. Wyman, M. D., Birmingham.

Executive health officer:

*Douglas L. Cannon, M. D., C. P. H., Acting state health officer, Montgomery.

Secretary to executive health officer:

*Bessie A. Tucker, Montgomery.

Financial secretary:

*Adna Eley Alldredge, Montgomery.

Registrar of vital statistics:

*W. T. Fales, Sc. D., Montgomery.

*Ethel Hawley, chief clerk, Montgomery.

Laboratories of the State board of health:

General director—

*L. C. Havens, M. D., Montgomery.

Assistant general director—

*Catherine Ridgway, Montgomery.

Anniston branch—

*Katie Mae Wilson, Anniston.

Birmingham branch—

*E. K. Kline, Dr. P. H., Birmingham.

Mobile branch—

*C. H. Waite, Mobile.

Tennessee Valley—

*A. J. Perolio, M. D., Albany.

Tuscaloosa branch—

*Lucile Watt, Tuscaloosa.

State sanitary engineer:

*G. H. Hazlehurst, C. E., M. C. E., Montgomery.

Assistant sanitary engineers:

*H. G. Menke, B. C. E., Montgomery.

*C. C. Kiker, B. C. E., Montgomery.

*T. H. Milford, B. C. E., Montgomery.

Communicable disease control:

*D. G. Gill, M. D., director, Montgomery.

County organization:

Divisional directors—

*C. L. Murphree, M. D., Birmingham.

*B. F. Austin, M. D., Birmingham.

Director of training base—

*A. H. Graham, M. D., Wetumpka.

Public health nursing:

*Jessie L. Marriner, R. N., director, Montgomery.

*Francis Montgomery, R. N., assistant director, Montgomery.

*Annie Jewel Brown, R. N., assistant director, Montgomery.

Inspection:

*C. A. Abele, Ch. E., director, Montgomery.

*H. J. Thrasher, deputy inspector, Montgomery.

*H. W. Caldwell, deputy inspector, Montgomery.

*C. H. South, deputy inspector, oyster control, Mobile.

*L. C. Frank, U. S. P. H. S., in charge of milk inspection, Montgomery.

*J. W. Garrett, milk inspector, Selma.

*U. D. Franklin, milk inspector, Montgomery.

*F. H. Downs, milk inspector, Montgomery.

Appropriation for fiscal year ending September 30, 1928:

Central administration..... \$322,120

County health work, per county..... 2,500

¹ Reprints Nos. 83, 123, 190, 296, 344, 405, 488, 544, 605, 706, 775, 871, 949, 1,043, 1,106, and 1,188, from the Public Health Reports.

ALASKA

Board of health:

George A. Parks, governor, Juneau.

Harry C. De Vigne, M. D., commissioner of health, Juneau.

Executive health officer:

Harry C. De Vigne, M. D., commissioner of health, Juneau.

Assistant commissioners of health:

Curtis Welch, M. D., Nome.

J. A. Sutherland, M. D., Fairbanks.

A. H. Blakemore, Cordova.

Appropriation for 1927-28, \$18,100.

ARIZONA

State board of health:

George W. P. Hunt, governor, president, Phoenix.

John W. Murphy, attorney general, vice president, Phoenix.

F. T. Fahlen, M. D., secretary, Phoenix.

Executive health officer:

F. T. Fahlen, M. D., State superintendent of public health, Phoenix.

Executive secretary:

*Mrs. F. C. Hurst, jr., Phoenix.

State registrar of vital statistics:

F. T. Fahlen, M. D., Phoenix.

Child hygiene division:

*Mrs. Charles R. Howe, director, Phoenix.

*J. Frances D. Ross, R. N., field nurse.

*Mary S. Kelleher, R. N., field nurse.

*Jeannette W. Hemphill, R. N., field nurse.

*Augusta J. Olson, R. N., field nurse.

*Ruby Stanley, stenographer.

State bureau of vital statistics:

*Mrs. Ruby L. Jacquemin, statistician, Phoenix.

Director State laboratory:

*Jane H. Rider, Tucson.

Appropriation for fiscal year ending June 30, 1928:

State board of health—

| | |
|-------------------------------|-------------|
| Salaries..... | \$12,800.00 |
| Operating expense..... | 5,450.00 |
| Traveling expense..... | 2,500.00 |
| Capital investment..... | 500.00 |
| Repairs and replacements..... | 150.00 |

State laboratory, Tucson—

| | |
|-------------------------|----------|
| Salaries..... | 6,540.00 |
| Operating expense..... | 700.00 |
| Traveling expense..... | 900.00 |
| Capital investment..... | 500.00 |

Child hygiene division, Sheppard-Towner work (appropriation for fiscal year ending June 30, 1928, State and Federal funds)—

| | |
|------------------------|-----------|
| Salaries..... | 17,825.00 |
| Operating expense..... | 1,682.42 |
| Traveling expense..... | 5,000.00 |

ARKANSAS

Board of health:

John R. Dibrell, M. D., president, Little Rock.

O. L. Williamson, M. D., Marianna.

E. L. Watson, M. D., Newport.

A. S. Gregg, M. D., Fayetteville.

Board of health—Continued.

L. D. Duncan, M. D., Waldron.

W. P. Parks, M. D., Hot Springs.

F. O. Mahony, M. D., El Dorado.

Executive health officer:

*C. W. Garrison, M. D., State health officer, Little Rock.

Bureau of vital statistics:

*Mrs. Mary Ellis Brown, statistician, Little Rock.

Hygienic laboratory:

*H. V. Stewart, associate director, Little Rock.

Bureau of sanitation and malaria control:

*M. Z. Bair, chief sanitary engineer, Little Rock.

Bureau of venereal disease control:

*C. W. Garrison, M. D., director, Little Rock.

Bureau of child hygiene:

*C. W. Garrison, M. D., director, Little Rock.

Appropriations for biennial period ending June 30, 1929:

| | |
|---|----------|
| Executive department, salaries and miscellaneous..... | \$26,060 |
| Bureau of vital statistics..... | 33,800 |
| Payment of local registrars..... | 34,000 |
| Bureau of venereal disease control..... | 2,000 |
| Malaria control..... | 8,400 |
| Bureau of sanitation..... | 10,020 |
| Bureau of child hygiene..... | 3,000 |
| Hygienic laboratory..... | 15,340 |

Total..... 135,640

CALIFORNIA

Board of public health:

George E. Ebright, M. D., president, San Francisco.

Fred F. Gundrum, M. D., vice president, Sacramento.

Walter M. Dickie, M. D., director of public health, Sacramento.

A. J. Scott, Jr., M. D., Los Angeles.

Edward F. Glaser, M. D., San Francisco.

Adelaide Brown, M. D., San Francisco.

Robert A. Peers, M. D., Colfax.

Department of public health:

*Walter M. Dickie, M. D., director of public health, Sacramento.

Epidemiologist:

*Charles H. Halliday, M. D., Berkeley.

District health officer:

*Gavin Teller, M. D., southern division.

Chief sanitary inspector:

*Edward T. Ross, Sacramento.

Chief cannery inspector:

*Milton P. Duffy, San Francisco.

Vital statistics:

*L. E. Ross, registrar, Sacramento.

Bureau of registration nurses:

Bureau of tuberculosis:

*Edythe L. M. Tate-Thompson, chief, Sacramento.

Bureau of food and drugs:

*M. E. Jaffe, chief, Berkeley.

Bacteriological laboratory:

*W. H. Kellogg, M. D., chief, Berkeley.

Bureau of sanitary engineering:

*C. G. Gillespie, C. E., chief, Berkeley.

Bureau of child hygiene:

*Ellen S. Stadtmuller, M. D., chief, San Francisco.

Malaria control:

*Edward Stuart, C. E., in charge.

Appropriations for biennial period ending June 30, 1929. (For 79th and 80th fiscal years.)

Administration:

For support.....\$498,253

Aid to mosquito abatement districts.....20,000

Division of cannery inspection:

For support.....126,020

(Payable from cannery inspection funds.)

Nurses registration bureau:

For support.....35,390

Tuberculosis bureau:

For support.....43,640

For subsidies.....600,000

Total.....1,323,303

Other sources of revenue:

Fees for registration of nurses, \$10 each.

Renewal of registration certificates, \$1 per year.

Licensing of cold-storage warehouses, rated according to capacity.

Fines for violation of pure food and drugs act.

Fees for licenses, \$10 each, and contributions, for credit to division of cannery inspection.

Fees for certified copies of records.

Publications issued by health department:

Biennial report.

Weekly bulletin.

COLORADO

Board of health:

Sherman Williams, M. D., president, Denver.

S. R. McKelvey, M. D., secretary, Denver.

J. S. Hasty, M. D., Lamar.

Ben Beshoar, M. D., Trinidad.

M. Ethel V. Fraser, M. D., Denver.

Ralph M. Jones, D. O., Denver.

C. A. Davlin, M. D., Alamosa.

Charles W. Thompson, M. D., Pueblo.

Roy L. Gleason, M. D., Fort Collins.

Executive health officer:

*S. E. McKelvey, M. D., secretary, State board of health, Denver.

Bacteriologist:

William C. Mitchell, M. D., Denver.

Medical inspector:

J. W. Morgan, M. D., Denver.

State food and drug commissioner:

*S. H. Loeb, Denver.

Division of social hygiene:

*S. R. McKelvey, M. D., director, Denver.

Division of sanitary engineering:

*Dana E. Kepner, director, Denver.

Division of plumbing inspection:

*Irving H. Fuller, inspector, Denver.

Appropriations for years 1927 and 1928:

Salaries.....\$38,400

Laboratory equipment and supplies... 4,000

Printing and publications.....7,100

Traveling expenses.....8,000

Samples and supplies (food).....600

Sanitary engineering.....13,900

Venereal disease.....40,000

Incidental expenses.....2,040

Total.....114,040

CONNECTICUT

Public health council:

Edward K. Root, M. D.

S. B. Overlock, M. D.

C. E. A. Winslow, D. P. H.

James W. Knor.

Edward P. Jones.

James A. Newlands.

Executive health officer:

*Stanley H. Osborn, M. D., C. P. H., commissioner of health, Hartford.

Bureau of preventable diseases:

*Millard Knowlton, M. D., C. P. H., director.

Bureau of vital statistics:

*William C. Welling, director.

Bureau of public health nursing:

*Sarah R. Addison, R. N., director.

Bureau of child hygiene:

*A. Elizabeth Ingraham, M. D.

Bureau of public health instruction:

*Elizabeth C. Nickerson, C. P. H.

Bureau of laboratories:

*F. Lee Mickle, director.

Bureau of sanitary engineering:

*Warren J. Scott, director.

Division of occupational diseases:

*Albert S. Gray, M. D.

Division of venereal diseases:

*Henry P. Talbot, M. D.

Division of mental hygiene:

H. A. Bancroft, M. D., chief.

Division of mouth hygiene:

Clyde R. Salmons, D. D. S., chief.

Division of medical registration:

Ruth H. Monroe, chief.

Appropriation for fiscal period ending June 30, 1929 (two years), \$519,500.

Publications issued by health department:

Weekly bulletin.

Monthly bulletin.

Annual vital-statistics report.

Annual report of State department of health.

Miscellaneous pamphlets.

DELAWARE

State board of health:

William P. Orr, M. D., president, Lewes.

Mrs. Charles Warner, vice president, Wilmington.

Robert E. Ellegood, M. D., State Road.

Margaret L. Handy, M. D. Wilmington.

Mrs. Julia Ashbrook, Wilmington.

W. P. Pierce, M. D., Milford.

Executive health officer:

*Arthur T. Davis, M. D., Dover.

Director of laboratory:

*Rowland D. Herdman, Dover.

Director of child hygiene:

*Cleland A. Sargent, M. D., Dover.

Sanitary engineer:

*Richard C. Beckett, Dover.

Superintendent of Brandywine sanatorium:

*L. D. Phillips, M. D., Marshallton.

Superintendent of Edgewood sanatorium:

*Elizabeth Van Vranken, R. N., Marshallton.

Appropriations for each fiscal year ending**June 30, 1928 and 1929:**

General administration.....\$90,500

Hygienic laboratory.....9,000

Edgewood sanatorium for colored tuberculous patients.....12,000

Brandywine sanatorium for white tuberculous patients.....40,000

Total.....121,500**Publications:**

Biennial report.

Bimonthly health news.

Bulletin on health subjects.

DISTRICT OF COLUMBIA**Executive health officer:**

*William C. Fowler, M. D., health officer, Washington.

Assistant health officer:

*Edward J. Schwartz, M. D., Washington.

Chief clerk and deputy health officer:

*Arthur G. Cole, Washington.

Chief bureau of preventable diseases and director**bacteriological laboratory:**

*James G. Cumming, M. D., Washington.

Bacteriologist:

*John E. Noble, Washington.

Serologist:

*Jesse P. Porch, D. V. M., Washington.

Chemist:

*Aubrey V. Fuller, Washington.

Chief sanitary inspector:

*J. Frank Butts, Washington.

Director child hygiene service:

*Hugh J. Davis, M. D., Washington.

Chief food inspector:

*Reid R. Ashworth, D. V. S., Washington.

Chief medical and sanitary inspector of schools:

*Joseph A. Murphy, M. D., Washington.

Appropriations for the fiscal year ending**June 30, 1929:**

Salaries.....\$166,430

Prevention of communicable diseases.....43,000

Disinfecting service.....5,500

Isolation wards at hospitals.....23,000

Milk and food inspection and regulation.....6,100

Dispensary service, including treatment of tuberculosis and venereal diseases.....28,000

Maintaining a child hygienic service.....48,300

Hygiene and sanitation, public schools.....68,340

Laboratory service.....2,500

Miscellaneous.....8,225

Total.....399,455**Publications issued by health department:**

Weekly report by health department.

Annual report of health officer.

Monthly statement of average grade of milk sold.

FLORIDA**Board of health:**

Chas. H. Mann, president, Jacksonville.

H. Mason Smith, M. D., Tampa.

W. D. Nobles, M. D., Pensacola.

Executive health officer:

*B. L. Arms, M. D., State health officer, Jacksonville.

Diagnostic laboratories:

*Pearl Griffith, B. E., acting director, Jacksonville.

Bureau of vital statistics:

*Stewart G. Thompson, D. P. H., director, Jacksonville.

Bureau of communicable diseases:

*F. A. Brink, M. D., director, Jacksonville.

Bureau of sanitary engineering:

*E. L. Filby, C. E., director, Jacksonville.

Bureau of child hygiene and public health nursing:

*Mrs. Laurie Jean Reid, R. N., director, Jacksonville.

Appropriation for health department:

One-half mill tax levied upon the assessable property of the State for the year ending June 30, 1929.

Publications issued by health department:

Pamphlets covering all phases of public health.

Public health information disseminated through the weekly and daily papers of the State.

Florida health notes.

Annual reports.

GEORGIA**Board of health:**

Robert F. Maddox, president, Atlanta.

James H. McDuffie, M. D., vice president, Columbus.

T. F. Abercrombie, M. D., secretary, Atlanta.

Charles H. Richardson, M. D., Macon.

A. D. Little, M. D., Thomasville.

John W. Daniel, M. D., Savannah.

D. M. Carter, M. D., Madison.

Fred D. Patterson, M. D., Cuthbert.

John A. Rhodes, M. D., Crawfordville.

A. C. Shamblin, M. D., Rome.

C. R. Brice, D. D. S., Gainesville.

A. A. Lawry, D. D. S., Valdosta.

M. S. Brown, M. D., Fort Valley.

M. L. Duggan, State superintendent of schools, ex officio, Atlanta.

J. M. Sutton, State veterinarian, ex officio, Atlanta.

Executive health officer:

*T. F. Abercrombie, M. D., commissioner, Atlanta.

*Joe P. Bowdoin, M. D., deputy commissioner, Atlanta.

Division of venereal-disease control:

*Joe P. Bowdoin, M. D., director, Atlanta.

Division of county health work:

*M. E. Winchester, M. D., director, Atlanta.

Division of laboratories:

*T. F. Sellers, director, Atlanta.

Division of sanitary engineering:

*L. M. Clarkson, director, Atlanta.

State tuberculosis sanatorium:

*Edson W. Glidden 2d, M. D., superintendent, Alto.

Bureau of vital statistics:

*Butler Toombs, acting director, Atlanta.

Division of child hygiene:

*Joe P. Bowdoin, M. D., director, Atlanta.

Georgia training school for mental defectives:

*John W. Oden, M. D., superintendent.

Division of accounting and purchasing:

*C. L. Tinsley, director, Atlanta.

Appropriations for the fiscal year ending Dec. 31, 1929:

| | |
|---|--------------|
| General appropriation..... | \$110,000.00 |
| Veneral-disease control..... | 10,000.00 |
| Maternity and infant hygiene..... | 5,000.00 |
| State tuberculosis sanatorium..... | 210,000.00 |
| Georgia training school for mental defectives..... | 60,000.00 |
| Total appropriation by legislature..... | 395,000.00 |
| Maternity and infancy (Federal Government funds, fiscal year ending June 30, 1929)..... | 29,530.55 |
| Central administration, county health work (International Health Board funds)..... | 4,200.00 |
| Central administration, malaria control (International Health Board funds)..... | 3,500.00 |
| Grand total..... | 432,230.55 |

HAWAII

Board of health:

F. E. Trotter, M. D., president and executive officer, Honolulu.

Harry R. Hewitt, attorney general, Honolulu.

A. G. Hodgins, M. D., Honolulu.

D. S. Bowman, Honolulu.

J. D. McVeigh, Honolulu.

J. Ordenstein, Honolulu.

George Denison, Honolulu.

Executive health officer:

*F. E. Trotter, M. D., president of the board of health, Honolulu.

Secretary:

*M. R. Weir, Honolulu.

Bacteriologist:

*A. N. Sinclair, M. D., Honolulu.

Tuberculosis bureau:

*Howard W. Chamberlin, M. D., Honolulu.

Health officer:

James T. Wayson, M. D., Honolulu.

Sanitary engineer:

*S. W. Tay, Honolulu.

Food commissioner and analyst:

*M. B. Bairos, Honolulu.

Oahu Insane Asylum:

*A. B. Eckerdt, M. D., superintendent, Honolulu.

Lepor settlement:

*R. L. Cooke, superintendent, Kalaupapa, Molokai.

*Robert L. McArthur, M. D., physician, Kalaupapa, Molokai.

Lepor settlement--Continued.

*George B. Tuttle, M. D., assistant physician, Kalaupapa, Molokai.

Chief sanitary inspector, Oahu:

*A. K. Arnold, Honolulu.

Chief sanitary inspector, Hawaii:

*C. Charlock, Hilo.

Chief sanitary inspector, Maui:

*R. C. Lane, Wailuku.

Chief sanitary inspector, Kauai:

*A. P. Christian, Kapaa.

Appropriations, 1927-1929:

Board of health--

| | |
|--|-------------|
| Salary, president..... | \$14,400.00 |
| Salary, public health officer..... | 8,400.00 |
| Salary, secretary..... | 7,200.00 |
| Salaries, office employees..... | 32,860.00 |
| Expenses, office..... | 16,005.00 |
| Expenses, board of medical examiners-- | |
| Personal service..... | 250.00 |
| Expenses..... | 700.00 |

Bureau of vital statistics--

| | |
|---|-----------|
| Salary, registrar general..... | 6,000.00 |
| Salaries, deputies and clerks..... | 22,200.00 |
| Salaries, registrar, Honolulu..... | 3,600.00 |
| Expenses, office registrar general..... | 12,000.00 |
| Purchase of equipment..... | 400.00 |

Bureau of sanitary engineering--

| | |
|--------------------------------|----------|
| Salary, sanitary engineer..... | 9,600.00 |
| Other personal service..... | 8,640.00 |
| Expenses..... | 1,740.00 |

Sanitation--

| | |
|---|------------|
| Salary, chief sanitary inspector, Oahu..... | 7,200.00 |
| Other personal services..... | 157,800.00 |
| Sanitary expenses, Territory.. | 20,125.00 |
| Salaries and expenses, plague campaign..... | 51,540.00 |
| Salaries and expenses, mosquito campaign..... | 6,500.00 |

Pure food and drug bureau--

| | |
|---------------|-----------|
| Salaries..... | 21,600.00 |
| Expenses..... | 3,525.00 |

Bacteriological bureau--

| | |
|---|----------|
| Salary, bacteriologist and pathologist..... | 6,000.00 |
| Other personal services..... | 500.00 |
| Expenses..... | 3,950.00 |

Government physicians--

| | |
|---------------|-------------|
| Salaries..... | 76,500.00 |
| Hawaii..... | \$32,100.00 |
| Maui..... | 18,600.00 |
| Kauai..... | 12,000.00 |
| Oahu..... | 12,000.00 |
| Lanai..... | 1,800.00 |

(Provided, however, that no salary shall be allowed or paid unless physicians employed or appointed in the several districts shall treat the indigent sick free of charge in such district or districts, as the case may be.)

Appropriations, 1927-1929—Contd.

| | |
|------------------------------------|-------------|
| Quarantine and medical service— | |
| Salaries..... | \$23,600.00 |
| Expenses..... | 33,060.00 |
| Quarantine stations— | |
| Repairs, maintenance, equip- | |
| ment, and salaries, Honolulu | 20,805.00 |
| Repairs, maintenance, equip- | |
| ment, and salaries, Hilo..... | |
| Care of lepers and their children— | |

KALAUPAPA AND KALIHI HOSPITAL

| | |
|---------------------------------|------------|
| Personal services— | |
| Superintendent..... | \$9,600.00 |
| Other personal services..... | 235,890.00 |
| Other current expenses..... | 431,244.00 |
| Motor vehicles..... | 3,150.00 |
| Other equipment..... | 13,266.00 |
| Buildings and equipment..... | 4,000.00 |
| Allowance needy blind pa- | |
| tients, extra \$5 per month.... | 7,200.00 |

KALIHI HOSPITAL AND LEPER SETTLEMENT

| | |
|---|----------|
| Aiding indigent persons released from Kalihi Hospital and Leper Settlement..... | 2,500.00 |
|---|----------|

KAPIOLANI GIRLS' HOME

| | |
|------------------|-----------|
| Salaries..... | 15,330.00 |
| Maintenance..... | 36,450.00 |

KALIHI BOYS' HOME

| | |
|------------------|-----------|
| Salaries..... | 24,940.00 |
| Maintenance..... | 34,150.00 |

Prevention and cure of tuberculosis—

| | |
|--|------------|
| Salaries..... | 116,195.00 |
| Expenses, including purchase of automobiles..... | 38,355.00 |

Cure and treatment of tubercular patients in sanitariums.

| | |
|------------------------------------|--------------|
| Onahu, Leahi home..... | \$168,000.00 |
| Maui, Kula Sanitarium..... | 96,000.00 |
| Kauai, Samuel Mahele Hospital..... | 72,000.00 |
| Hawaii, Puumailo Home..... | 40,250.00 |
| Improvements Puumailo Home..... | 45,430.00 |

Insane asylum—

| | |
|---|------------|
| Salary, superintendent..... | 8,400.00 |
| Pay roll..... | 229,810.00 |
| Maintenance..... | 169,790.75 |
| Compensation to patients for labor..... | 600.00 |
| Other equipment..... | 48,813.25 |
| Sanitarium— | |
| Salaries, employees..... | 21,120.00 |
| Maintenance..... | 16,594.00 |

KALIHI BOYS' HOME—continued

Appropriations, 1927-1929—Contd.

| | |
|--|-------------|
| Venereal-disease clinic— | |
| Salaries..... | \$11,400.00 |
| Expenses..... | 5,285.00 |
| Bureau welfare and hygiene of maternity and infancy— | |
| Salaries..... | 8,400.00 |
| Expenses..... | 4,951.92 |
| Equipment..... | 100.00 |

Total..... 2,495,904.92

Publications issued by health department:

Annual report of president.
Registrar general's report.

IDAHO

Department of public welfare:

David Burrell, commissioner.
_____, public health advisor.

*Lawrence J. Peterson, bacteriologist.

*William Vernon Leonard, chemist.

*Robert H. Pratt, dairy, food, drug, hotel, and sanitary inspector.

*C. K. Macey, dairy, food, drug, hotel, and sanitary inspector.

Executive health officer:

*David Burrell, commissioner of public welfare, Boise.

Bureau of child hygiene:

_____, State director.

Appropriation for biennial period ending

Dec. 31, 1928:

| | |
|-------------------------------|----------|
| Personal service..... | \$31,120 |
| Other expenses..... | 15,025 |
| Venereal-disease control..... | 2,200 |
| Total..... | 68,345 |

ILLINOIS

Board of public-health advisors:

T. D. Doan, M. D., president.

Arnold H. Kegel, M. D., secretary.

W. A. Evans, M. D.

E. P. Sloan, M. D.

Mrs. E. N. Monroe.

Director of public health:

*Isaac D. Rawlings, M. D., Springfield.

Assistant director of public health:

*Thomas H. Leonard, M. D.

Division of sanitation and engineering:

*Harry F. Ferguson, C. E., chief sanitary engineer.

Division of communicable diseases:

*J. J. McShane, M. D., D. P. H., chief.

Division of child hygiene and public-health nursing:

*Grace S. Wightman, M. D., superintendent.

Division of tuberculosis:

*Thomas H. Leonard, M. D., acting chief.

Division of laboratories:

*Thomas G. Hull, Ph. D., chief.

Division of vital statistics:

*Sheldon L. Howard, registrar.

Division of public-health instruction:

*Baxter K. Richardson, chief.

Division of social hygiene:

*C. C. Copelan, M. D., chief.

Division of hotel and lodging-house inspection:

*John Ransom, superintendent.

Appropriations for biennial period ending
June 30, 1929:

| | |
|------------------------------|-----------|
| Salaries..... | \$774,460 |
| Salaries State officers..... | 30,400 |
| Office expenses..... | 20,300 |
| Traveling expenses..... | 134,192 |
| Operation..... | 188,932 |
| Repairs and equipment..... | 27,100 |
| Contingent..... | 38,700 |
| Printing..... | 51,200 |
| Postage..... | 20,000 |
| Rabies..... | 4,000 |
| Total..... | 1,289,284 |

Publications issued by health department:

Illinois Health News (monthly).
Weekly press bulletin.
Educational health circulars.

INDIANA

Board of health:

James A. Turner, M. D., president, South Bend.
A. J. Hostetler, M. D., vice president, Lagrange.
John H. Green, M. D., North Vernon.
Cavins R. Marshall, M. D., Indianapolis.
William F. King, M. D., secretary, Indianapolis.

Executive health officer:

*William F. King, M. D., State health commissioner, Indianapolis.

Division of vital statistics:

*H. M. Wright, director, Indianapolis.

Laboratory of hygiene:

*C. F. Adams, M. D., B. S. A., director, Indianapolis.

Division of food and drugs:

*I. L. Miller, State food and drug commissioner, Indianapolis.

Milk laboratory:

*Frank C. Wilson, director, Indianapolis.

Water and sewage laboratory:

*Lewis S. Finch, sanitary engineer, Indianapolis.

Division of child hygiene:

*Ada E. Schweitzer, M. D., director, Indianapolis.

Division of communicable diseases:

*H. W. McKane, M. D., director, Indianapolis.

Epidemiologist:

*Walter W. Lee, M. B., Indianapolis.

Division of school hygiene:

*H. R. Coadrey, director, Indianapolis.

Division of housing:

*A. E. Wert, director, Indianapolis.

Department of public-health nursing:

*Eva F. McDougal, R. N., director, Indianapolis.

*Ella McNeill, R. N., assistant director, Indianapolis.

Appropriations for biennial period ending September 30, 1929, \$180,500 per annum.

IOWA

State department of health:

EX OFFICIO

John Hammill, governor, Des Moines.
Ed. M. Smith, secretary of state, Des Moines.
R. E. Johnson, treasurer of state, Des Moines.
J. W. Long, auditor of state, Des Moines.
M. G. Thornburg, secretary of agriculture, Des Moines.
Henry Albert, M. D., Des Moines.

APPOINTEE BY GOVERNOR

H. E. Sugg, M. D., president, Clinton.
W. D. Hayes, C. P. H., Sioux City.
H. L. Saylor, M. D., Des Moines.
T. E. Powers, M. D.
A. A. Robertson, M. D., Council Bluffs.

Executive health officer:

*Henry Albert, M. D., State health commissioner, Des Moines.

*D. C. Steelsmith, M. D., C. P. H., deputy commissioner, Des Moines.

Director of public health nursing:

*Edith Countryman, R. N., Des Moines.

Director, division of examinations:

*H. W. Grebe, Des Moines.

Chief engineer:

*A. H. Wieters, C. E., Des Moines.

Director nursing education:

*Maude E. Sutton.

Lecturer to girls:

*D. Pirie Beyer, Des Moines.

Assistant State registrar:

*R. L. McLaren.

Housing work is carried on by engineering division.
Medical, nurses, dental optometry, cosmetology, chiropractic, osteopathy, embalming, podiatry, and barber examining boards are combined in State department of health.

Appropriations for fiscal year ending June
30, 1928:

| | |
|---|----------|
| For salaries and wages..... | \$29,700 |
| Miscellaneous traveling..... | 3,000 |
| Antitoxin, vaccine, and other prophylactics..... | 5,000 |
| Sanitary engineering and housing— | |
| Salaries and wages..... | 9,900 |
| Traveling..... | 5,000 |
| Equipment and laboratory..... | 1,000 |
| Quarantine enforcement and other contingencies..... | 4,000 |
| Dues in national organizations..... | 200 |
| Total..... | 57,800 |

Publications:

Biennial report, quarterly bulletin, health news letter.

KANSAS

Board of health:

Clarence A. McGuire, M. D., president, Topeka.
Walter A. Carr, M. D., vice president, Junction City.
George I. Thacher, M. D., Waterville.

Board of health—Continued.

John H. Henson, M. D., Mound Valley.
 Addison Kendall, M. D., Great Bend.
 Clay E. Coburn, M. D., Kansas City.
 Arthur J. Anderson, M. D., Lawrence.
 V. C. Eddy, M. D., Colby.
 Walter J. Ellerts, M. D., Wichita.
 Thomas Armory Lee, attorney, Topeka.

Executive health officer:

*Earle G. Brown, M. D., secretary State board of health, Topeka.

Division of vital statistics:

*W. J. Davies, State registrar.

Division of communicable diseases:

*C. H. Kinnaman, M. D., epidemiologist, Topeka.

Division of foods and drugs:

*Thomas I. Dalton, assistant chief food and drug inspector, Topeka.

Division of child hygiene:

*J. C. Montgomery, M. D., chief, Topeka.

Division of rural sanitation:

*J. C. Montgomery, M. D., director, Topeka.

Division of water and sewage:

Earnest Boyce, chief, Lawrence.

Division of public health education:

*Earle G. Brown, M. D., director, Topeka.

Division of venereal diseases:

*Earle G. Brown, M. D., director, Topeka.

Water and sewage laboratories at Kansas University:

Earnest Boyce, director, Lawrence.

Food laboratory at Kansas University:

Prof. E. H. S. Bailey, director of food analysis, Lawrence.

Drug laboratory at Kansas University:

Prof. L. D. Havenhill, director of drug analysis, Lawrence.

Food laboratory at Kansas Agricultural College:

Prof. H. H. King, director of food analysis, Manhattan.

Public health laboratory, Topeka:

*Earle G. Brown, M. D., acting director, Topeka.

Appropriations for fiscal year ending June

30, 1928:

| | |
|--|----------|
| Salaries..... | \$21,300 |
| Miscellaneous..... | 3,550 |
| Water and sewage division..... | 3,000 |
| Free distribution of antitoxins, etc..... | 3,500 |
| Public health laboratory, and the department of division of venereal disease control; distribution of arsphenamine (606) to indigent poor of the State; assistance and maintenance of clinics..... | 10,000 |
| Division of child hygiene..... | 5,000 |
| Division of food and drugs..... | 5,000 |
| County aid, full-time demonstrations..... | 5,000 |
| Total..... | 56,350 |

Other sources of revenue:

Marriage fees, approximately \$20,000.

Water and ice analysis fees, approximately \$14,000.

Publications issued by health department:

Biennial report.

Weekly morbidity report.

KENTUCKY

Board of health:

George S. Coon, M. D., president, Louisville.
 E. M. Howard, M. D., Harlan.
 A. T. McCormack, M. D., secretary, Louisville.
 J. Watts Stovall, Grayson.
 Vernon Blythe, M. D., Paducah.
 H. T. Alexander, M. D., Augusta.
 H. H. Carter, D. O., Shelbyville.
 Lawrence T. Minish, M. D., Frankfort.
 Addison Dimmitt, Louisville.

Executive health officer:

*A. T. McCormack, M. D., D. P. H., State health officer, Louisville.

Bureau of vital statistics:

*J. F. Blackerby, director, Louisville.

Bureau of bacteriology:

*Lillian H. South, M. D., director, Louisville.

Bureau of sanitary engineering:

*F. C. Dugan, C. E., director, Louisville.

Bureau of food, drugs, and hotels:

*Sarah Vance Dugan, director, Louisville.

Bureau of venereal diseases:

*Jethra Hancock, M. D., Louisville.

Bureau of public health nursing:

*Margaret East, R. N., director, Louisville.

Bureau of maternity and child health:

*Annie S. Veech, M. D., director, Louisville.

*Juanita Jennings, M. D., assistant, Louisville.

Bureau of prevention of trachoma and blindness:

*C. B. Kobert, M. D., director, Louisville.

Bureau of public health education:

*Adelbert Thomas, director.

Bureau of county health work:

*P. E. Blackerby, M. D., director and assistant State health officer, Louisville.

*M. W. Steele, M. D., assistant, Louisville.

*V. A. Stilley, M. D., assistant, Louisville.

Bureau of tuberculosis and State tuberculosis sanitarium:

*Paul A. Turner, M. D., director and superintendent, Louisville.

Bureau of dental health:

R. P. Keene, D. D. S., director, Owensboro.

Legislative appropriation for fiscal year ending June 30, 1929, \$161,298.84.

Publications issued by health department:

Monthly bulletin.

LOUISIANA

Board of health:

Oscar Dowling, M. D., president, Shreveport.
 T. T. Tarlton, M. D., vice president, Grand Coteau.
 Fred Ratzburg, D. D. S., Shreveport.
 E. S. Matthews, M. D., Bunkie.
 Mrs. L. C. McVoy, Baton Rouge.
 M. P. Boebinger, M. D., New Orleans.
 A. O. Hoefeld, M. D., New Orleans.
 T. J. Labbe, St. Martinville.
 G. M. Snellings, M. D., Monroe.
 Fannie B. Nelken, secretary.

Executive health officer:

*Oscar Dowling, M. D., president, State board of health, New Orleans.

Bacteriologist:

W. H. Seemann, M. D., New Orleans.

Registrar:

J. E. Doussan, M. D., New Orleans.

Sanitary engineer:

*John H. O'Neill, New Orleans.

*A. H. Fletcher, assistant sanitary engineer.

Child hygiene:

*Agnes Morris, director, New Orleans.

Maud Loeber, M. D., medical consultant, New Orleans.

Food and drug commissioner:

*L. C. Williams, assistant, New Orleans.

Analyst:

*Cassius L. Clay, New Orleans.

Director of dairy division:

*Russell S. Smith.

Bureau of research and information:

*Leonard C. Scott, acting assistant surgeon, U. S. P. H. S., New Orleans.

Bureau of public health administration:

*C. V. Akin, surgeon, U. S. P. H. S., New Orleans.

Appropriations for fiscal year ending June 30, 1929, \$75,000.

Publications issued by health department:

Monthly bulletin.

Quarterly bulletin.

Annual almanac.

Biennial report.

Miscellaneous leaflets.

MAINE**Public health council:**

O. F. Kendall, M. D., chairman, Augusta.

Hiram Ricker, South Poland.

H. A. Kelley, D. D. S., Portland.

Annie Peabody, Portland.

J. G. Towne, M. D., Waterville.

O. R. Emerson, M. D., Newport.

Executive health officer:

*C. F. Kendall, M. D., State commissioner of health, Augusta.

Division of administration:

*C. F. Kendall, M. D., Augusta.

Division of communicable diseases:

*G. H. Coombs, M. D., director, Augusta.

Division of laboratories:

*Alfred G. Long, M. D., C. P. H., Augusta.

Division of sanitary engineering:

*Elmer W. Campbell, D. P. H., Augusta.

Division of vital statistics:

*C. F. Kendall, M. D., State registrar, Augusta.

Division of social hygiene:

*George H. Coombs, M. D., director, Augusta.

Division of public health nursing and child hygiene:

*Edith L. Soule, R. N., Augusta.

Division of dental hygiene:

*Dorothy Bryant, D. H., Augusta.

District health officers:

*J. L. Pepper, M. D., South Portland.

*E. P. Goodrich, M. D., Lewiston.

*H. D. Worth, M. D., Bangor.

*G. H. Hutchins, M. D., Waterville.

*L. W. Hadley, M. D., Machias.

*James W. Loughlin, M. D., Newcastle.

*B. F. Porter, M. D., Caribou.

Appropriations for fiscal year ending June 30, 1929:

Salaries and clerk hire..... \$38,000

Office expense and epidemic fund..... 30,000

District and local health officers..... 38,000

Venereal-disease control work..... 14,000

Maternity and child-welfare work..... 10,000

Branch State laboratory, Caribou..... 2,500

Aid for typhoid carriers..... 3,000

Total..... 125,500

Other sources of revenue:

Census Bureau, Washington, D. C., about \$800.

Federal funds under Sheppard-Towner Act, \$15,000.

License fees from camps, roadside eating and lodging places, about \$10,000.

Publications issued by the department of health.

MARYLAND**Board of health:**

Robert H. Riley, M. D., chairman, Baltimore.

William H. Welch, M. D., Baltimore.

Thomas H. Robinson, attorney general, Baltimore.

William W. Ford, M. D., Baltimore.

C. Hampson Jones, M. D., Baltimore.

Tolley A. Biays, Baltimore.

Benjamin C. Perry, M. D., Bethesda.

E. F. Kelly, Phar. D., Baltimore.

Executive health officer:

*Robert H. Riley, M. D., Dr. P. H., director of health, Baltimore.

Division of legal administration:

*J. Davis Donovan, chief, Baltimore.

Committee on public health education:

*Gertrude B. Knipp, secretary, Baltimore.

Nurse-at-large:

*Mrs. John P. Troy, R. N.

Bureau of communicable diseases:

*Robert H. Riley, M. D., Dr. P. H., chief, Baltimore.

Bureau of vital statistics:

*John Collinson, M. D., Dr. P. H., chief, Baltimore.

Food and drug commissioner:

*A. L. Sullivan, chief, Baltimore.

Bureau of bacteriology:

*H. C. Ward, B. Ph., chief, Baltimore.

Bureau of sanitary engineering:

*Abel Wolman, B. S. E., chief, Baltimore.

Bureau of chemistry:

*Wyatt W. Randall, Ph. D., chief, Baltimore.

Division of personnel and accounts:

*Walter N. Kirkman, chief, Baltimore.

Bureau of child hygiene:

*J. H. Mason Knox, Jr., M. D., chief, Baltimore.

Appropriations for fiscal year ending September 30, 1928:

Salaries..... \$258,102

Expenses..... 122,574

Emergency appropriation (epidemics, etc.)..... 10,000

Total..... 390,676

Publications issued by health department:

Annual report.

Weekly News Letter.

MASSACHUSETTS

Public health council:

George H. Bigelow, M. D., chairman, Boston.
 Roger I. Lee, M. D., Boston.
 Francis H. Lally, M. D., Milford.
 Richard P. Strong, M. D., Boston.
 Sylvester E. Ryan, M. D., Springfield.
 James L. Tighe, Holyoke.
 Gordon Hutchins, Concord.

Executive health officer:

*George H. Bigelow, M. D., State commissioner
 of public health, Boston.

Secretary:

*Alice M. Ethier.

Division of administration:

(Under direction of commissioner.)

Division of communicable diseases:

*Clarence L. Scamman, M. D., director, Boston.

Division of sanitary engineering:

*X. H. Goodnough, C. E., director and chief
 engineer, Boston.

Division of water and sewage laboratories:

*H. W. Clark, director and chemist, Boston.

Division of biologic laboratories:

*Benjamin White, Ph. D., director and pathol-
 ogist, Boston.

Division of food and drugs:

*Hermann C. Lythgoe, director and analyst,
 Boston.

Division of hygiene:

*Merrill E. Champion, M. D., director, Boston.

Division of tuberculosis sanatoria:

*Sumner H. Remick, M. D., director, Boston.

Appropriations for department of public
health, 1928:

Division of administration—

| | |
|--------------------------------|------------|
| Salary of commissioner..... | \$7,500.00 |
| Personal services..... | 18,800.00 |
| Services other than personal.. | 11,440.00 |

Division of hygiene—

| | |
|---|-----------|
| Personal services of director and assistants..... | 31,375.00 |
| Services other than personal.. | 16,500.00 |
| Personal services in connection with maternal and infant hy- giene..... | 20,000.00 |
| Expenses in connection with maternal and infant hygiene | 10,400.00 |

Division of communicable dis-
eases—

| | |
|--|-----------|
| Personal services of director, district health officers, etc.. | 60,550.00 |
| Services other than personal.. | 16,500.00 |
| Personal services in connection with control of venereal dis- eases..... | 10,450.00 |
| Expenses in connection with control of venereal diseases.. | 33,000.00 |

Wassermann Laboratory—

| | |
|--------------------------------|-----------|
| For personal services..... | 14,000.00 |
| For expenses of laboratory.... | 5,100.00 |

Antitoxin and vaccine laboratory—

| | |
|----------------------------|-----------|
| For personal services..... | 59,000.00 |
| Other services..... | 37,900.00 |
| Architects' fees..... | 624.63 |

Appropriations for department of public
health, 1928—Continued.

Inspection of food and drugs—

| | |
|----------------------------|-------------|
| For personal services..... | \$47,400.00 |
| Other services..... | 14,300.00 |

For administering the shellfish
law—

| | |
|------------------------|----------|
| Personal services..... | 3,200.00 |
| Other services..... | 1,200.00 |

Water supply and disposal of sew-
age, engineering division—

| | |
|----------------------------|-----------|
| For personal services..... | 62,000.00 |
| For other services..... | 17,700.00 |

Water supply and disposal of sew-
age, division of water and sew-
age laboratories—

| | |
|----------------------------|-----------|
| For personal services..... | 38,000.00 |
| For other services..... | 8,100.00 |

Division of tuberculosis—

| | |
|--------------------------------|-----------|
| For personal services..... | 33,200.00 |
| Services other than personal.. | 10,200.00 |

For personal services of tubercu-
losis clinic units.....

| | |
|---|-----------|
| Services other than personal (clinic units)..... | 39,000.00 |
| | 19,540.00 |

| | |
|---------------------------|------------|
| Payment of subsidies..... | 232,000.00 |
|---------------------------|------------|

For maintenance of and for certain
improvements at the Lakeville,
North Reading, Rutland, and
Westfield State sanatoria.....

| | |
|--|--------------|
| | 1,232,570.00 |
|--|--------------|

Special appropriations under legis-
lative acts and resolves of 1928..

| | |
|--|----------|
| | 6,900.00 |
|--|----------|

Cancer clinics—

| | |
|---------------------------|-----------|
| For personal service..... | 20,500.00 |
| For other expenses..... | 29,500.00 |

| | |
|---|-----------|
| For the care of radium after purchase..... | 10,000.00 |
|---|-----------|

Cancer hospital at Norfolk—

| | |
|--|------------|
| For maintenance..... | 214,150.00 |
| For completion of improve- ments required and for cer- tain equipment..... | 18,800.00 |

| | |
|------------|--------------|
| Total..... | 2,411,399.63 |
|------------|--------------|

MICHIGAN

Advisory council of health:

C. C. Slemons, M. D., president, Grand Rapids.
 Robert B. Harkness, M. D., Houghton.
 Chalmers J. Lyons, D. D. Sc., Ann Arbor.
 Leo J. Dretzka, M. D., Detroit.
 Louis J. Hirschman, M. D., Detroit.

Executive health officer:

*Guy L. Kiefer, M. D., D. P. H., State health
 commissioner, Lansing.

Deputy health commissioner:

*Don M. Griswold, M. D., D. P. H., Lansing.

Bureau of engineering:

*E. D. Rich, C. E., director.
 *John M. Hepler, assistant engineer.
 *Willard F. Shephard, B. S. E., assistant engi-
 neer.
 *Raymond J. Faust, assistant engineer.
 *Herbert H. Hasson, assistant engineer.
 *F. B. Ransford, water inspector.

Bureau of laboratories:

*C. C. Young, Ph. D., D. P. H., director.
 *Minna Crooks, R. N., bacteriologist.

Bureau of laboratories—Continued.

- *James Bell, M. D., associate bacteriologist
- *Grace Lubin, Ph. D., serologist.
- *Pearl Kendrick, bacteriologist, West Michigan division.
- *Ora Mills, bacteriologist, Houghton Branch.
- *Milton Bidwell, chemist.
- *A. B. Haw, clinical pathologist.
- *Newton D. Larkum, Ph. D., immunologist.
- *Roy W. Pryor, D. P. H., immunologist.
- *Charles L. Bliss, toxicologist.
- *Bruce Robinson, superintendent, biologic plant.

Bureau of child hygiene and public health nursing:

- *Lillian R. Smith, M. D., director.
- *Florence H. Knowlton, M. D., physician.
- *Rhoda Grace Hendrick, M. D., prenatal consultant.
- *Helen de Spelder Moore, R. N., assistant director.

Bureau of records and statistics:

- *W. J. V. Deacon, M. D., director.

Bureau of education:

- *Marjorie Delavan, director.
- *Pearl Turner, assistant director.
- *Melita Hutzel, lecturer.
- *Frank A. Poole, M. D., lecturer.

Bureau of embalming:

- *Frank J. Pienta, director.

Bureau of epidemiology:

- *Don M. Griswold, M. D., D. P. H., director.
- *Robert Stark, M. D., medical inspector.

Bureau of mouth hygiene:

- *William R. Davis, D. D. S., director.

Appropriations for fiscal year ending

June 30, 1928:

| | |
|--|--------------|
| Personal service..... | \$302,650.00 |
| Supplies..... | } 102,000.00 |
| Contractual service..... | |
| Outlay for equipment..... | 7,000.00 |
| Total..... | 311,650.00 |
| Antitoxin operation..... | 65,000.00 |
| Child hygiene and public health nursing..... | 64,741.11 |
| Grand total..... | 441,391.11 |

Publications issued by health department:

- Monthly bulletin.
- Annual report.
- Communicable disease pamphlets.
- Sex hygiene pamphlets.
- Child hygiene pamphlets.
- Engineering bulletins.
- Month hygiene pamphlets.
- Scientific reprint series.
- Rules and regulations.
- Health officers' manual.

MINNESOTA

Board of health:

- S. Marx White, M. D., president, Minneapolis.
- L. P. Wolff, C. E., vice president, St. Paul.
- C. L. Scofield, M. D., Benson.
- N. M. Watson, M. D., Red Lake Falls.
- N. G. Mortensen, M. D., St. Paul.
- O. F. Melby, M. D., Thief River Falls.
- W. H. Barr, M. D., Wells.
- E. W. Fabey, M. D., St. Paul.
- J. A. Thabes, M. D., Brainerd.

Executive health officer, Old Capitol, St. Paul:

- *A. J. Chesley, M. D., secretary and executive officer.

Division of administration, Old Capitol, St. Paul:

- *O. C. Pierson, director.

Division of vital statistics, Old Capitol, St. Paul:

- *Gerda C. Pierson, director.

Division of hotel inspection, Old Capitol, St. Paul:

- *W. A. Wittbecker, State hotel inspector.

Division of preventable diseases, university campus, Minneapolis:

- *O. McDaniel, M. D., director.
- *E. M. Wade, chief of laboratories.
- *W. P. Greene, M. D., epidemiologist.
- *John C. Vezina, M. D., epidemiologist.

Division of sanitation, university campus, Minneapolis:

- *H. A. Whittaker, director.
- *O. E. Brownell, C. E., seniorsanitary engineer.

Division of venereal diseases, university campus, Minneapolis:

- H. G. Irvine, M. D., director.

Division of child hygiene, university campus, Minneapolis:

- Everett C. Hartley, M. D., director.
- *Oliva Peterson, R. N., superintendent of public health nursing.

Appropriations for fiscal year ending

June 30, 1929:

Maintenance and vital statistics—

| | |
|---------------|----------|
| Salaries..... | \$31,520 |
| Expenses..... | 7,211 |
| | \$38,731 |

Free antitoxin..... 14,500

Venereal disease..... 17,500

Sanitary engineering and laboratory... 27,160

Preventable diseases and laboratory... 60,856

Protection for maternity and infancy... 21,000

Hotel inspection..... 33,500

Total..... 213,397

Publications issued by health department:

Educational pamphlets.

MISSISSIPPI

Board of health:

- W. W. Crawford, M. D., president, Hattiesburg.
- Felix J. Underwood, M. D., secretary, Jackson.
- S. E. Eason, M. D., New Albany.
- L. B. Austin, M. D., Rosedale.
- J. W. Lipcomb, M. D., Columbus.
- B. J. Shaw, M. D., Slate Springs.
- J. M. Dampeer, M. D., Crystal Springs.
- W. H. Watson, M. D., Brandon.
- Dudley Stennis, M. D., Newton.
- W. R. Wright, D. D. S., Jackson.

Executive health officer:

- *Felix J. Underwood, M. D., executive officer, State board of health, Jackson.

Bureau of vital statistics:

- *R. N. Whitfield, M. D., director, Jackson.

Bureau of child hygiene and public health nursing:

- *Felix J. Underwood, M. D., acting director, Jackson.
- *Mary D. Osborne, R. N., supervisor, public health nursing, Jackson.
- *Gladys Eylich, supervisor oral hygiene, Jackson.

Hygienic laboratory:

*T. W. Kemmerer, M. D., director, Jackson.

Bureau of sanitary engineering:

*H. A. Kroeze, C. E., director, Jackson.

*Geo. Parker, C. E., malarial control engineer, Jackson.

*N. M. Parker, D. V. S., State sanitary inspector, Jackson.

*John M. Henderson, C. E., State sanitary inspector, Jackson.

*A. W. Fuchs, C. E., in charge of milk investigations in State.

*Floyd Ratliff, State sanitary inspector, Jackson.

Bureau of county health work:

*C. C. Applewhite, M. D., director, Jackson.

Bureau of communicable diseases:

*H. C. Ricks, M. D., director, Jackson.

Appropriation for the biennial period ending June 30, 1929, \$300,600.

Publications issued by health department:

Biennial report.

Weekly health letters published in all newspapers of the State.

MISSOURI**Board of health:**

W. A. Clark, M. D., president, Jefferson City.

H. L. Kerr, M. D., vice president, Crane.

James Stewart, M. D., secretary, Jefferson City.

H. S. Gove, M. D., Linn.

H. A. Breyfogle, M. D., Kansas City.

T. E. McGough, M. D., Richmond.

Willard C. Bartlett, M. D., St. Louis.

Executive health officer:

*James Stewart, M. D., State health commissioner, Jefferson City.

*Irl Brown Krause, M. D., assistant State health commissioner.

Rural sanitation:

Erval R. Coffey, M. D., U. S. P. H. S., director.

Epidemiology:

*R. L. Russell, M. D., assistant epidemiologist.

*R. L. Laybourn, bacteriologist.

Sanitary engineering:

*W. Scott Johnson, chief engineer.

Vital statistics:

*Ross Hopkins, M. D., statistician.

Child hygiene:

*Irl Brown Krause, M. D., director.

Appropriations for biennial period ending

Dec. 31, 1928:

Board of health—

Licensure..... \$20,000

Salaries..... 85,800

Contingent..... 32,000

Cooperative health work..... 100,000

Control of contagion..... 50,000

Total..... 287,800

Of the above appropriation, \$47,000 is being withheld by the governor until State revenues are sufficient for release.

MONTANA**Board of health:**

George M. Jennings, M. D., president, Missoula.

E. M. Porter, M. D., vice president, Great Falls.

B. L. Pampel, M. D., Livingston.

L. H. Fligman, M. D., Helena.

E. G. Balsam, M. D., Billings.

Executive health officer:

*W. F. Cogswell, M. D., secretary, Helena.

Division of communicable diseases:

*J. H. Crouch, M. D., epidemiologist, Helena.

Division of child welfare:

*Hazel Dell Bonness, M. D., director, Helena.

Division of food and drugs:

*Glenn D. Wiles, director, Helena.

Division of vital statistics:

*W. F. Cogswell, M. D., State registrar, Helena.

*L. L. Benepe, deputy State registrar, Helena.

Division of water and sewage:

*H. B. Foote, director, Helena.

W. M. Cobleigh, consultant, Bozeman.

*Jacob W. Forbes, analyst, Helena.

Hygienic laboratory:

*Fred D. Stimpert, director, Helena.

*Edith Kuhns, technician, Helena.

Appropriations for the years ending—

| | June 30, 1928 | June 30, 1929 |
|--|------------------|------------------|
| Salaries..... | \$24,900 | \$24,900 |
| Operating expenses..... | 6,900 | 6,900 |
| Capital expenditures..... | 200 | 200 |
| Repairs..... | 75 | 75 |
| Division of child welfare.... | 10,700 | 10,700 |
| Board of entomology (Rocky Mountain spotted-fever work)..... | 23,320 | 25,000 |
| Spotted-fever laboratory.... | 60,000 | ----- |
| Total..... | 126,095 | 67,775 |

Other sources of revenue:

| | |
|---|--------|
| All fees collected by State board of health, approximating, each year.... | 12,000 |
| Rockefeller Foundation..... | 3,650 |
| Sheppard-Towner funds..... | 13,600 |

Publications issued by health department:
Special bulletins on communicable diseases.

Biennial report.

NEBRASKA**Department of public welfare:**

Lincoln Frost, secretary, Lincoln.

Bureau of health—**Executive health officer—**

*W. H. Wilson, M. D., chief, bureau of health, Lincoln.

Collaborating epidemiologist—

*W. H. Wilson, M. D., Lincoln.

Assistant epidemiologist—

*P. H. Bartholomew, M. D., Lincoln.

Department of public welfare—Continued.

Bureau of health—Continued.

Bacteriologist—

*L. O. Vose, Lincoln.

Division of laboratories—

*L. O. Vose, director, Lincoln.

Division of venereal diseases—

*P. H. Bartholomew, M. D., director, Lincoln.

Statistician—

*Hattie M. Summers, Lincoln.

Division of child hygiene—

*Louise M. Murphy, R. N., director, Lincoln.

Medical examining board—

W. R. Boyer, M. D., Pawnee City.

H. J. Lehnhoff, M. D., Lincoln.

E. T. McGuire, M. D., Mead.

Appropriations for biennial period ending

June 30, 1929:

| | |
|------------------|----------|
| Salaries..... | \$42,000 |
| Maintenance..... | 22,800 |
| Total..... | 64,800 |

NEVADA

State board of health:

F. B. Balzar, governor, president, Carson City,
Edward E. Hamer, M. D., secretary and State
health officer, Carson City.

W. G. Greathouse, secretary of state.

John Fuller, M. D., Reno.

A. J. Hood, M. D., Reno.

Executive health officer:

Edward E. Hamer, M. D., Carson City.

State hygienic laboratory at State university:

*Vera E. Lautenschlager, acting director, Reno.

Appropriations for 1927 and 1928:

| | |
|--|---------|
| Salary of secretary..... | \$5,000 |
| For State board of health..... | 3,600 |
| For purchase of diphtheria antitoxin for free distribution..... | 500 |
| Total..... | 9,100 |

Publications issued by health department:

Biennial report.

Special bulletins.

NEW HAMPSHIRE

Board of health:

Robert Fletcher, C. E., president, Hanover.

D. E. Sullivan, M. D., Concord.

George C. Wilkins, M. D., Manchester.

Sibley G. Morrill, M. D., Concord.

Huntley N. Spaulding, governor.

Jeremy M. Waldron, attorney general, Portsmouth.

Executive health officer:

*Charles Duncan, M. D., secretary, State board
of health, Concord.

*Harriet I. Parkhurst, chief clerk, Concord.

Division of maternity, infancy, and child hygiene:

*Mary D. Davis, R. N., director and supervising
nurse, Manchester.

Department of vital statistics:

*Charles Duncan, M. D., registrar, Concord.

*Bertha M. Watson, chief clerk, Concord.

Division of chemistry and sanitation:

*Charles D. Howard, chief of division, Concord.

*Nathan Civen, assistant chemist, Concord.

*Herbert R. Hill, assistant chemist and bacteriologist, Concord.

*Leonard W. Trager, assistant sanitary engineer, Concord.

*Joseph X. Duval, chief inspector, Concord.

Diagnostic and pathological department—

*William R. Macleod, serologist and diagnostic bacteriologist, Concord.

H. N. Kingsford, M. D., pathologist, Hanover.

*Benj. Jewell, assistant in pathological laboratory, Concord.

Venereal-disease division:

*Charles A. Weaver, M. D., Manchester.

Appropriations for fiscal year ending June

30, 1929:

| | |
|----------------------------|----------|
| State board of health..... | \$36,938 |
| Laboratory of hygiene..... | 16,200 |
| Vital statistics..... | 6,050 |
| Total..... | 59,188 |

Publications issued by health department:

Bulletin.

Biennial report.

NEW JERSEY

Board of health:

Clyde Potts, C. E., president, Morristown.

Charles I. Lafferty, vice president, Atlantic City.

David D. Chandler, Newark.

H. E. Winter, V. M. D., Plainfield.

J. Oliver McDonald, M. D., Trenton.

Harold J. Harder, C. E., Paterson.

S. A. Cosgrove, M. D., Jersey City.

Mrs. Helen M. Berry, Newark.

Margaret McNaughton, Jersey City.

J. E. H. Guthrie, D. D. S., Newark.

J. Lynn Mahaffey, M. D., Camden.

Executive health officer:

*David C. Bowen, director of health, Trenton.

Bureau of bacteriology:

*John V. Mulcahy, chief, Trenton.

Bureau of chemistry:

*John E. Bacon, chief, Trenton.

Bureau of administration:

*Charles J. Merrell, chief, Trenton.

Bureau of food and drugs:

*Walter W. Scofield, chief, Trenton.

Bureau of child hygiene:

*Julius Levy, M. D., consultant, Trenton.

Bureau of local health administration:

*David C. Bowen, chief, Trenton.

Bureau of engineering:

*H. P. Croft, chief, Trenton.

Bureau of vital statistics:

*David S. South, chief, Trenton.

Bureau of venereal-disease control:

A. J. Casselman, M. D., consultant, Trenton.

Appropriations for fiscal year ending June

30, 1929:

| | |
|-------------------------------|-----------|
| Salaries..... | \$199,330 |
| Miscellaneous..... | 58,700 |
| Child hygiene..... | 86,879 |
| Venereal-disease control..... | 30,340 |
| Total..... | 375,249 |

Publications issued by health department:

Monthly bulletin.

Annual report.

NEW MEXICO

Board of public welfare:

R. O. Brown, M. D., chairman, Santa Fe.

Mrs. Francis C. Wilson, vice chairman, Santa Fe.

Mrs. Alice M. Shortle, secretary, Albuquerque.

Joseph Gill, Albuquerque.

H. A. Miller, M. D., Clovis.

Executive health officer:

*G. S. Luckett, M. D., director of public health, Santa Fe.

Division of preventable diseases:

*G. S. Luckett, M. D., chief, Santa Fe.

Division of vital statistics:

*P. M. Ruleau, chief, Santa Fe.

Division of sanitary engineering and sanitation:

*Paul S. Fox, M. S. in C. E., chief, Santa Fe.

Division of public health nursing and child hygiene:

*Edith Hodgson, R. N., chief, Santa Fe.

Division of county health work:

*D. B. Williams, M. D., chief, Santa Fe.

Public health laboratory:

*Myrtle Greenfield, M. S., chief, Albuquerque.

Appropriation for years 1928 and 1929, per annum, \$27,500. Fiscal year ends June 30.

NEW YORK

Public health council:

Simon Flexner, M. D., LL. D., chairman, New York.

Homer Folks, LL. D., vice chairman, Yonkers.

Edward H. Marsh, M. D., secretary, Albany.

Henry N. Ogden, C. E., Ithaca.

Frederick F. Russell, M. D., New York.

Jacob Goldberg, M. D., Buffalo.

Stanton P. Hull, M. D., Petersburg.

Matthias Nicoll, jr., M. D., (ex officio) commissioner of health, Albany.

Executive health officer:

*Matthias Nicoll, jr., M. D., commissioner of health, Albany.

Deputy commissioner of health:

*Paul B. Brooks, M. D., Albany.

Secretary:

*Edward H. Marsh, M. D., Albany.

Executive officer:

*Fenimore D. Beagle, Albany.

Division of public health education:

*B. R. Rickards, director, Albany.

Division of sanitation:

*Charles A. Holmquist, C. E., director, Albany.

Division of vital statistics:

*Joseph V. De Porte, Ph. D., director, Albany.

Division of child hygiene:

*Elizabeth M. Gardiner, M. D., director, Albany.

Division of communicable diseases:

*Edward S. Godfrey, M. D., director, Albany.

Division of tuberculosis:

*Robert Plunkett, M. D., director, Albany.

Division of social hygiene:

*Albert Pfeiffer, M. D., director, Albany.

Division of laboratories and research:

*Augustus B. Wadsworth, M. D., director, Albany.

Division of public-health nursing:

*Mathilde S. Kuhlman, R. N., director, Albany.

Institute for the study of malignant disease, Buffalo.

*Burton T. Simpson, M. D., director.

Appropriations for fiscal year ending

June 30, 1929:

| | |
|--|----------------|
| Personal service..... | \$1,084,120.00 |
| Maintenance and operation..... | 493,361.82 |
| For State aid to county laboratories..... | 110,000.00 |
| Investigation of oyster beds..... | 5,000.00 |
| State aid to county health activities..... | 120,586.11 |
| Physically handicapped children..... | 27,500.00 |
| Total..... | 1,840,567.63 |

Other sources of revenue:

Fees from certified transcript of birth, death, and marriage certificates, \$1,758.78 per annum.

Licensing laboratories, \$406.

Sale of serums, \$2,248.72.

Licensing embalmers and undertakers, \$9,446.50.

Publications issued by health department:

Weekly Health News.

Monthly Vital Statistics Review.

Annual Report.

NORTH CAROLINA

Board of health:

A. J. Crowell, M. D., Charlotte, president.

Thomas E. Anderson, M. D., Statesville.

E. J. Tucker, D. D. S., Roxboro.

Cyrus Thompson, M. D., Jacksonville.

D. A. Stanton, M. D., High Point.

James P. Stowe, Ph. G., Charlotte.

John B. Wright, M. D., Raleigh.

L. E. McDaniel, M. D., Jackson.

Chas. C. Orr, M. D., Asheville.

Executive health officer:

*Charles O'H. Laughinghouse, M. D., secretary-treasurer and State health officer, Raleigh.

*Ronald B. Wilson, assistant to the secretary, Raleigh.

Laboratory of hygiene:

*C. A. Shore, M. D., director, Raleigh.

Deputy State registrar:

*F. M. Register, M. D., Raleigh.

Bureau of engineering and inspection:

*H. E. Miller, C. E., director, Raleigh.

Bureau of maternity and infancy:

*George Collins, M. D., director, Raleigh.

Bureau of health education:

*G. M. Cooper, M. D., director, Raleigh.

Bureau of county health work:

*C. N. Sisk, M. D., director, Raleigh.

Bureau of epidemiology:

*H. A. Taylor, M. D., director, Raleigh.

Bureau of life extension:

*Frederick R. Taylor, M. D., director, High Point.

Appropriations for fiscal year ending June 30, 1929:

| | |
|---------------------------------|-----------|
| Administration..... | \$39, 850 |
| Vital statistics..... | 31, 520 |
| Laboratory of hygiene..... | 70, 000 |
| School inspection..... | 60, 000 |
| County health work..... | 102, 510 |
| Epidemiology..... | 12, 500 |
| Maternity and infancy..... | 22, 260 |
| Engineering and inspection..... | 76, 020 |
| Health education..... | 11, 740 |
| Malaria control and survey..... | 5, 000 |
| Life extension..... | 10, 000 |
| Total..... | 441, 400 |

Other sources of revenue:

| | |
|---------------------------------|---------|
| International health board..... | 8, 500 |
| Federal Government..... | 33, 000 |
| Fees paid the laboratory..... | 32, 000 |

Publications issued by health department:

Monthly bulletin: The Health Bulletin.
Special bulletins.
Biennial report.

NORTH DAKOTA

Advisory health council:

Bertha R. Palmer, superintendent public instruction, ex officio, Bismarck.

Fannie Dunn Quain, M. D., president North Dakota Tuberculosis Association, ex officio, Bismarck.

Arne Oftedal, M. D., Fargo.

Mrs. H. A. Helsem, Grafton.

R. S. Towne, D. D. S., Bismarck.

Executive health officer:

*A. A. Whittemore, M. D., State health officer, Bismarck.

Child hygiene and public-health nursing:

*Maysil M. Williams, M. D., director, Bismarck.

Bureau of venereal diseases:

*J. D. Jungman, M. D., Bismarck.

Bureau of sanitary engineering:

A. L. Bavone.

Bureau of vital statistics:

*Myrtle C. Lee, director.

Appropriations for biennial period ending

June 30, 1927:

| | |
|--|----------|
| Salaries— | |
| State health officer, per year..... | \$3, 600 |
| Clerical assistants, per year..... | 5, 200 |
| Maintenance..... | 6, 000 |
| Maternity and child hygiene, per year..... | 1, 500 |
| Appropriation for venereal-disease work, per year..... | 4, 200 |

OHIO

Public health council:

John E. Monger, M. D., chairman, Columbus.

James E. Bauman, secretary.

G. D. Lummis, M. D.

C. O. Probst, M. D.

R. M. Calfee.

W. I. Jones, D. D. S.

Executive health officer:

*John E. Monger, M. D., director of health, Columbus.

Assistant director of health:

*James E. Bauman.

Division of administration:

*James E. Bauman, chief.

*C. A. Orrison, chief clerk.

Bureau of publicity—

*Paul Mason, director.

Bureau of local health organization—

*E. R. Shaffer, M. D., chief.

Division of communicable diseases:

*C. P. Robbins, M. D., chief.

*T. W. Mahoney, M. D., chief epidemiologist.

Bureau of venereal diseases—

*C. P. Robbins, M. D., chief.

Bureau of trachoma clinics—

Division of sanitary engineering:

*F. H. Waring, chief.

Bureau of plumbing inspection—

*A. A. Manchester, chief.

Division of laboratories:

*Fred Berry, chief.

Division of vital statistics:

*Irvin C. Plummer, chief.

Division of hygiene:

*J. A. Frank, M. D., chief.

Bureau of tuberculosis—

H. M. Austin, M. D., chief.

Bureau of hospitals—

*James A. Weis, chief.

Division of child hygiene:

Bureau of public health education—

*A. B. Lippert, M. D., chief.

Division of public health nursing:

*Zoe McCaleb, R. N., chief.

Division of industrial hygiene:

*B. E. Nelswander, M. D., chief.

E. R. Hayhurst, M. D., consultant.

Appropriations for 18 months ending

December 30, 1928:

| | |
|-------------------------------------|----------------|
| Personal service..... | \$291, 460. 63 |
| Maintenance..... | 202, 203. 25 |
| State aid for health districts..... | 375, 000. 00 |
| Total..... | 868, 753. 88 |

Publications issued by health department:

Ohio Health News (semimonthly).

OKLAHOMA

Executive health officer:

*O. O. Hammonds, M. D., State health commissioner, Oklahoma City.

Assistant State health commissioner:

*J. P. Folan, Oklahoma City.

Bureau of vital statistics:

*W. B. Dennis, registrar, Oklahoma City.

Bureau of laboratories:

*D. T. Bowden, M. D., director of laboratory.

Bureau of maternity and infancy:

*Lucille Spire Blachly, M. D., director.

Bureau of venereal disease control:

A. M. Young, M. D., director.

Bureau of rural sanitation:

*D. T. Bowden, M. D., director.

Bureau of sanitary engineering:

*H. J. Darcy, director.

Bureau of public health education:

*G. Harrison, director.

Bureau dental health education:

Pearl E. Wilson, R. N.

Bureau of epidemiology:

*G. F. Mathews, M. D.

Appropriations for fiscal year ending June 30, 1928:

Administration—

| | |
|---|---------|
| Commissioner..... | \$3,600 |
| Assistant commissioner..... | 2,400 |
| Secretary and stenographer..... | 1,800 |
| Bookkeeper..... | 2,000 |
| Stenographers (1 at \$1,800, 1 at \$1,500, and 1 at \$1,200)..... | 4,500 |

Bureau of public health education—

| | |
|-------------------|-------|
| Director..... | 2,400 |
| Stenographer..... | 1,500 |

Bureau of diagnostic laboratory—

| | |
|--|-------|
| Chemist..... | 3,000 |
| Assistant chemist..... | 2,400 |
| Bacteriologist..... | 3,000 |
| Assistant bacteriologist..... | 2,400 |
| Record clerk..... | 1,800 |
| Extra help—manufacture of typhoid vaccine—janitor..... | 2,500 |

Bureau of sanitary engineering—

| | |
|---------------|-------|
| Engineer..... | 3,000 |
|---------------|-------|

Bureau of pure food, drugs, and sanitary inspection—

| | |
|-------------------------------------|-------|
| Supervisor (sanitary engineer)..... | 2,400 |
| Inspectors (4 at \$1,800 each)..... | 7,200 |

Bureau of vital statistics—

| | |
|---|-------|
| Registrar..... | 2,400 |
| Assistant registrar..... | 1,800 |
| Statistical clerks (3 at \$1,500 each)..... | 4,500 |

Bureau of maternity and infancy—

| | |
|--|-------|
| Director (physician)..... | 3,000 |
| Stenographer..... | 1,500 |
| Head nurse..... | 2,400 |
| Field nurses (4 at \$1,800 each)..... | 7,200 |
| Contingent aid to county health units..... | 5,000 |

All bureaus—

| | |
|---|--------|
| Traveling..... | 14,000 |
| Communication..... | 2,500 |
| Printing, other than office supplies..... | 3,000 |
| For expense of operation of laboratory..... | 2,100 |
| Office supplies..... | 1,000 |
| Medical supplies..... | 6,000 |
| Supplies for the manufacture of vaccines..... | 500 |
| Office equipment..... | 750 |
| Laboratory equipment..... | 600 |

Unallocated appropriations—

| | |
|--|---------|
| Bureau for control of venereal diseases..... | 7,000 |
| Bureau of epidemiology disease prevention..... | 5,000 |
| Rural sanitation, mouth hygiene, and disease prevention in rural district and county health units..... | 21,575 |
| Control of malaria..... | 5,000 |
| Total..... | 142,725 |

OREGON

Board of health:

E. B. Pickel, M. D., president, Medford.

Harold C. Bean, M. D., vice president, Portland.

Frederick D. Stricker, M. D., secretary and State health officer, Portland.

C. J. Smith, M. D., Portland.

W. B. Morse, M. D., Salem.

J. H. Rosenberg, M. D., Prineville.

W. T. Phy, M. D., Hot Lake.

Executive health officer:

*Frederick D. Stricker, M. D., secretary and State health officer, Portland.

Registrar of vital statistics:

*Frederick D. Stricker, M. D., Portland.

Division of child hygiene and public health nursing:

*Mrs. Glendora Blakely, R. N., Portland.

Director of laboratory:

*William Levin, D. P. H., Portland.

Appropriations for fiscal year ending December 31, 1927, \$44,765.

Publications issued by health department:

Annual report.

Biennial report.

Pamphlets and posters.

Weekly letter.

PENNSYLVANIA

Department of health:

Advisory board—

A. A. Cairns, M. D., Philadelphia.

S. R. Haythorn, M. D., Pittsburgh.

J. M. Wainwright, M. D., Scranton.

H. C. Frontz, M. D., Huntingdon.

C. B. Auel, M. E., East Pittsburgh.

Charles F. Mebus, C. E., Abington.

Executive health officer—

*Theodore B. Appel, M. D., secretary of health, Harrisburg.

*William G. Turnbull, deputy secretary of health, Harrisburg.

Bureau of sanatoria and State clinics—

*William G. Turnbull, M. D., Harrisburg.

Section State clinics—

*William C. Miller, M. D., Mechanicsburg.

Mont Alto sanatorium—

*R. H. McCutcheon, M. D., medical director, Mont Alto.

Cresson sanatorium—

*T. H. A. Stites, M. D., medical director, Cresson.

Hamburg sanatorium—

*Henry A. Gorman, M. D., medical director, Hamburg.

Bureau of communicable diseases—

*J. Moore Campbell, M. D., Harrisburg.

Section of epidemiology—

*J. Moore Campbell, M. D.

Tuberculosis section—

Genito-urinary section—

*Edgar S. Everhart, M. D., Lemoyne.

Section of restaurant hygiene—

*Howard M. Haines, Harrisburg.

Department of health—Continued.

| | |
|--|---------------|
| Bureau of engineering— | |
| *W. L. Stevenson, C. E., chief engineer, | |
| Harrisburg. | |
| Section sanitary engineering— | |
| *H. E. Moses, Harrisburg. | |
| Section of housing— | |
| *H. F. Bronson, C. E., Harrisburg. | |
| Section milk control— | |
| *Ralph E. Irwin, Camp Hill. | |
| Section industrial waste— | |
| *F. E. Daniels, M. A., Harrisburg. | |
| Bureau of child health— | |
| *J. Bruce McCreary, M. D., Shippensburg. | |
| School section— | |
| *J. Bruce McCreary, M. D. | |
| Pre-school section— | |
| *Mary Riggs Noble, M. D. | |
| Dental section— | |
| *C. J. Hollister, D. D. S. | |
| Bureau of finance— | |
| *Clinton T. Williams, Harrisburg. | |
| Section of accounts— | |
| *C. T. Williams. | |
| Purchasing section— | |
| *L. G. Owens, Harrisburg. | |
| Section of supplies— | |
| *Roy G. Miller, Harrisburg. | |
| Bureau of vital statistics— | |
| *Emlyn Jones, M. D., Johnstown. | |
| Bureau of laboratories— | |
| *John L. Laird, M. D., Philadelphia. | |
| Bureau of drug control— | |
| *James N. Lightner, LL. B., Lancaster. | |
| Bureau of nursing— | |
| *Alice M. O'Halloran, R. N., Harrisburg. | |
| Bureau of inspection— | |
| *James Duffy, Marietta. | |
| Bureau of public health education— | |
| *J. C. Funk, LL. B., Harrisburg. | |
| Appropriations for biennial period | |
| ending June 1, 1929: | |
| General health purposes..... | \$4, 770, 000 |
| Construction crippled children's | |
| hospital..... | 350, 000 |
| Sanitary water board..... | 150, 000 |
| Total..... | 5, 270, 000 |

PHILIPPINE ISLANDS

Director of health:

Jacobo Fajardo, M. D., Manila.

Council of hygiene, advisory board to the director of health:

Fernando Calderon, M. D., president, Manila.
 Regino G. Padua, M. D., secretary, Manila.
 José Fabella, M. D., Manila.
 Gervasio Ocampo, M. D., Manila.
 José Albert, M. D., Manila.
 Benito Valdes, M. D., Manila.
 Eulogio P. Revilla, LL. B., Manila.
 Vicente Genato, Manila.

Executive officer:

*Jacobo Fajardo, M. D., director of health, Manila.

Assistant to the director:

*Regino G. Padua, M. D., Manila.

Office of records and finance:

*Mamerto Tiano, chief, Manila.

Office of property:

*Bonifacio Mencias, M. D., acting chief, Manila.

Office of vital statistics:

*José Guidote, M. D., chief, Manila.

Office of general inspection:

*Rafael Villafranca, M. D., chief, Manila.

Public health education and publicity:

*José P. Bantug, M. D., chief, Manila.

Public health nursing:

*Rosario Pastor, M. D., chief, Manila.

Division of communicable diseases:

*Leoncio Lopez Rizal, M. D., chief, Manila.

Division of metropolitan sanitation:

*Eugenio Hernando, M. D., chief, Manila.

Division of hospitals, dispensaries, and laboratories:

*Eusebio D. Aguilar, M. D., chief, Manila.

Culion Leper Colony:

*Sulpicio Chiyuto, M. D., chief, Manila.

Division of provincial sanitation:

*Gabriel Intengan, M. D., chief, Manila.

Office of sanitary engineering:

*Manuel Mañosa, C. E., chief, Manila.

Appropriations for fiscal year ending December 31, 1927:

| | |
|--|-------------|
| Salaries and wages..... | \$928, 242 |
| Miscellaneous expenses..... | 1, 788, 570 |
| Furniture and equipment..... | 25, 000 |
| Special expenses— | |
| Purchase of an ambulance, refrigerator, tank, and pump for San Lazaro Hospital..... | \$15, 000 |
| Continuation of treatment of segregated lepers..... | 250, 000 |
| Aid to specially organized Provinces..... | 436, 600 |
| School of nursing in Bagulo..... | 10, 000 |
| Medicines, medical and surgical supplies for distribution to public-school dispensaries.... | 5, 000 |
| Demonstration on practical control of malaria and beriberi and improvement of organization and operation of sanitation in connection with the sum allotted for this purpose by the Rockefeller foundation..... | 25, 000 |
| Contribution to the University of the Philippines for the operation of the School of Sanitation and Public Health..... | 20, 000 |
| Control of malaria in the regularly and specially organized Provinces and municipalities and municipal districts.... | 100, 000 |
| Total for special expenses..... | \$61, 600 |
| Grand total of appropriations..... | 3, 603, 412 |

Publications issued by the Philippine health service:

Daily Service News.
Weekly comparative epidemiological résumé.
Weekly résumé of births and deaths.
Monthly bulletin.
Annual report.
Occasional pamphlets.

PORTO RICO

Department of health:

*Pedro N. Ortiz, M. D., commissioner of health, San Juan.

*A. Fernós Isern, M. D., assistant commissioner, San Juan.

Insular board of health:

Gustavo Muñoz Díaz, M. D., president, San Juan.

Luis B. de la Vega, M. D., secretary, San Juan.

Angel M. Pesquera, pharmacist, San Juan.

W. A. Glines, M. D., San Juan.

José López Acosta, San Juan.

G. A. Ramírez de Arellano, San Juan.

M. Roses Artau, M. D., San Juan.

Division of property and accounts:

*Abelardo Santiago, chief, San Juan.

Division of sanitary engineering:

*Octavio Marciano, sanitary engineer, San Juan.

Bacteriological laboratory:

*Pablo Morales Otero, M. D., director, San Juan.

Chemical laboratory:

*R. del Valle Sárraga, chemist, director, San Juan.

Division of transmissible diseases:

*M. O. de la Rosa, M. D., chief, San Juan.

*E. Garrido Morales, M. D., epidemiologist, San Juan.

Bureau of statistics:

*Manuel A. Pérez, chief, San Juan.

Appropriations for the fiscal year ending June 30, 1929:

| | |
|---|--------------|
| Office of the commissioner of health..... | \$276,490.00 |
| Leper hospital..... | 34,166.50 |
| Quarantine hospital..... | 12,684.00 |
| Antituberculosis sanatorium of Porto Rico..... | 147,468.00 |
| Blind asylum..... | 41,060.00 |
| Institute for blind children..... | 27,270.00 |
| Insane asylum..... | 250,000.00 |
| Education and maintenance of poor deaf and dumb children.... | 4,000.00 |
| Care of tubercular patients in the sanatorium at Ponce under the control of the department of health..... | 15,000.00 |
| Control and suppression of tuberculosis..... | 75,000.00 |
| Control and prevention of venereal diseases..... | 12,000.00 |
| Prevention of infantile mortality.. | 50,000.00 |
| Extermination of mosquitoes and control and suppression of malaria..... | 50,000.00 |
| Suppression of anemia..... | 150,000.00 |
| Extermination of rats..... | 20,000.00 |

Appropriations for the fiscal year ending June 30, 1929—Continued.

| | |
|---|--------------|
| Control and suppression of infantile tetanus and ophthalmia neonatorum..... | \$2,000.00 |
| Equipment and maintenance of district hospitals..... | 110,000.00 |
| Emergency fund for the control and suppression of epidemics... | 10,000.00 |
| Girls' charity school..... | \$4,178.00 |
| Boys' charity school..... | 112,131.00 |
| Sanitation fund, trust fund..... | 167,080.97 |
| Total..... | 1,650,528.47 |

RHODE ISLAND

Board of health:

William F. Williams, M. D., president, Bristol.
Joseph M. Bennett, M. D., vice president, Providence.

Thomas J. McLaughlin, M. D., Woonsocket.

John Champlin, Jr., M. D., Westerly.

Berton W. Storrs, M. D., Portsmouth.

M. S. Budlong, M. D., Providence.

R. Morton Smith, M. D., Riverpoint.

Executive health officer:

*B. U. Richards, M. D., secretary, State board of health, State commissioner of health, and State registrar, Statehouse, Providence.

Pathologist:

Lester A. Round, Ph. D., Providence.

Chemist:

Stephen De M. Gage, Providence.

Appropriations for fiscal year ending Nov. 30, 1928:

| | |
|------------------------------|----------|
| Executive department..... | \$36,425 |
| Chemical laboratory..... | 25,905 |
| Pathological laboratory..... | 25,550 |
| Child welfare..... | 10,200 |
| Veneral diseases..... | 9,220 |
| Total..... | 107,300 |

SOUTH CAROLINA

Executive committee, board of health:

Robert Wilson, Jr., M. D., chairman, Charleston.

L. D. Boone, M. D., Aiken.

Davis Furman, M. D., Greenville.

E. A. Hines, M. D., Seneca.

W. R. Wallace, M. D., Chester.

Wm. Egleston, M. D., Hartsville.

Sam. Hodges, Ph. G., Greenwood.

F. M. Routh, M. D., Columbia.

George Dick, D. D. S., Sumter.

Jno. M. Daniel, Atty. Gen., Columbia.

A. J. Beattie, Compt. Gen., Columbia.

Executive health officer:

*James A. Hayne, M. D., State health officer, Columbia.

Department of county health units:

*Ben F. Wyman, M. D., director, Columbia.

Bureau of child hygiene:

*Ada Taylor Graham, R. N., supervisor of public health nursing, Columbia.

Laboratory department:

*H. M. Smith, M. D., in charge, Columbia.

*J. R. Cain, chief bacteriologist, Columbia.

Bureau of vital statistics:

*C. W. Miller, chief clerk, Columbia.

Bacteriologist and chemist:

F. L. Parker, jr., M. D., Ph. D., Columbia.

South Carolina Sanatorium:

*Ernest Cooper, M. D., superintendent, Columbia.

Epidemiologist:

*A. H. Hayden, M. D., Columbia.

Sanitary engineer:

*A. E. Legare, C. E., Columbia.

Appropriations for fiscal year ending December 31, 1928:

| | |
|---------------------------------------|-------------------|
| Administrative office..... | \$11,767.00 |
| Control of epidemic diseases..... | 46,370.00 |
| Bureau of child hygiene..... | 10,120.00 |
| Bureau of vital statistics..... | 8,155.00 |
| Laboratory..... | 12,605.00 |
| Bureau of rural sanitation..... | 35,337.50 |
| Division of sanitary engineering..... | 16,090.00 |
| Tuberculosis sanatoria..... | 90,929.00 |
| Aid for crippled children..... | 10,000.00 |
| Child-placing bureau..... | 16,613.00 |
| Total..... | 257,986.50 |

Publications issued by health department:

Annual report.

Bulletins of various departments.

SOUTH DAKOTA**Board of health:**

F. E. Clough, M. D., president, Lead.

A. C. Clark, M. D., vice president, Woonsocket.

H. R. Kenaston, M. D., Bonesteel.

P. B. Jenkins, M. D., superintendent, Waubay.

Executive health officer:

*Park B. Jenkins, M. D., Waubay.

Division of vital statistics:

*Park B. Jenkins, M. D., Waubay.

Division of records and accounts:

*Edna Jenkins.

Division of medical licensure:

H. R. Kenaston, M. D.

Laboratories (at Vermillion):

J. C. Ohlmacher, M. D.

Division of child hygiene:

Florence E. Walker, R. N.

Appropriations:

| | 1927-28 | 1928-29 |
|---|---------------|---------------|
| Salaries and wages..... | \$17,100 | \$17,100 |
| Supplies and materials..... | 2,500 | 2,500 |
| Communication and travel..... | 4,000 | 4,000 |
| Printing, binding, and advertising..... | 1,500 | 1,500 |
| Light and power..... | 250 | 250 |
| Rents..... | 1,500 | 1,500 |
| Dues..... | 50 | 50 |
| Crippled children..... | 2,500 | 2,500 |
| Total..... | 29,400 | 29,460 |

TENNESSEE**Department of public health:**

*E. L. Bishop, M. D., C. P. H., commissioner, Nashville.

Division of epidemiology:

*H. C. Stewart, M. D., C. P. H., director, Nashville.

Division of local organization:

*W. K. Sharp, jr., M. D., director, Nashville.

Division of vital statistics:

*J. B. Bond, M. D., director, Nashville.

Division of laboratories:

*William Litterer, M. D., director, Nashville.

Division of sanitary engineering:

*Howard R. Fullerton, C. E., director, Nashville.

Division of health education:

*A. F. Richards, M. D., director, Nashville.

Division of child hygiene and public health nursing:

*W. J. Breeding, M. D., director, Nashville.

*Miss M. G. Nisbet, R. N., State supervising nurse, Nashville.

Division of tuberculosis control:

*M. F. Haygood, M. D., C. P. H., director, Nashville.

Appropriation for the fiscal period July 1, 1927, to June 30, 1929:

| | |
|--|----------------|
| General administration..... | \$31,000 |
| Vital statistics..... | 37,200 |
| Sanitary engineering..... | 36,200 |
| Laboratories..... | 47,840 |
| Health education..... | 12,400 |
| Epidemiology..... | 17,200 |
| Local organization..... | 148,400 |
| Child hygiene and public health nursing..... | 60,000 |
| Tuberculosis control..... | 90,000 |
| Total..... | 480,240 |

Other sources of revenue:

United States Department of Labor, maternity and child welfare, \$25,767.55 per annum.

International Health Board, \$22,500 (variable) per annum.

International Health Board, cooperation in malarial control, epidemiology and local organization, vital statistics. United States Public Health Service in malaria control. Individual counties and cities in State cooperation in malaria control, county health work and child hygiene and public health nursing. United States Public Health Service, cooperation in county health work, \$8,000 per annum.

TEXAS**Board of health:**

J. M. Frazier, M. D., Belton.

W. A. King, M. D., San Antonio.

A. A. Ross, M. D., Lockhart.

Joe Gilbert, M. D., Austin.

C. M. Rosser, M. D., Dallas.

E. W. Wright, M. D., Bowie.

J. C. Anderson, M. D., ex officio, State health officer.

Executive health officer:

*J. C. Anderson, M. D., State health officer, Austin.

Bureau of child hygiene:

*H. N. Barnett, M. D., director.

Bureau of vital statistics:

*W. A. Davis, M. D., director.

Bureau of communicable diseases and hygienic laboratory:

S. W. Bohls, M. D., director.

Bureau of sanitary engineering:

*V. M. Ehlers, C. E., director.

Bureau of pure foods and drugs:

*E. G. Le May, director.

Appropriations for fiscal year ending

August 31, 1928:

| | |
|-------------------|--------------|
| General fund..... | \$132,640.00 |
| Special fund..... | 77,901.04 |
| Total..... | 210,541.04 |

UTAH

Board of health:

Joseph R. Morrell, M. D., president, Ogden.
 T. B. Beatty, M. D., secretary, Salt Lake City.
 C. E. McDermid, M. D., Castle Gate.
 Carl Hopkins, Ogden.
 S. S. Burnham, D. D. S., Salt Lake City.
 Chas. J. Ullrich, C. E., Salt Lake City.

Executive health officer:

*T. B. Beatty, M. D., State health commissioner, Salt Lake City.

Bureau of vital statistics:

*T. B. Beatty, M. D., State registrar.
 *Anna M. Bowen, deputy registrar.

Bureau of child hygiene:

*H. Y. Richards, M. D., director.

Epidemiologist:

A. C. McKean, M. D.

Sanitary engineer:

*Leonard H. Male.

Bacteriological laboratory:

*E. H. Bramhall, bacteriologist.

Appropriations for year ending June 30, 1929:

| | |
|---------------------|----------|
| Salaries..... | \$20,000 |
| Office expense..... | 4,000 |
| Travel..... | 1,450 |
| Equipment..... | 500 |
| Child hygiene..... | 6,500 |
| Total..... | 32,450 |

Publications issued by health department:

Quarterly bulletin.

Biennial report.

VERMONT

Board of health:

Edward J. Rogers, M. D., chairman, Pittsford.
 William G. Ricker, M. D., St. Johnsbury.
 John P. Gifford, M. D., Randolph.

Executive health officer:

*Charles F. Dalton, M. D., secretary, State board of health, Burlington.

Laboratory of hygiene:

*Charles F. Whitney, M. D., director, Burlington.

Sanitary engineering:

J. W. Votey, C. E., Burlington.

Sanitary inspector:

*Fred S. Kent, M. D., Burlington.

Division of communicable diseases:

*Fred S. Kent, M. D., Burlington.

Division of tuberculosis:

*H. W. Slocum, Burlington.

Division of poliomyelitis:

*W. L. Aycock, M. D., research, Burlington.

*Lillian E. Kron, R. N., Burlington.

Division of maternal and infant hygiene:

*Nellie N. Jones, R. N., maternity, infancy, and child hygiene nurse.

Appropriations for fiscal year ending June 30, 1927:

Total budget, \$36,000.

Other sources of revenue:

Private donations for study and treatment of infantile paralysis.

Sheppard-Towner funds from Federal Government.

Publications issued by health department:

Biennial report.

VIRGINIA

Board of health:

W. T. Graham, M. D., president, Richmond.
 Mrs. W. M. Smith, Berryville.
 Frank Darling, Hampton.
 J. A. McGuire, M. D., Norton.
 Guy R. Harrison, D. D. S., Richmond.
 George B. Lawson, M. D., Roanoke.
 L. T. Royster, M. D., Charlottesville.

Executive health officer:

*Ennion G. Williams, M. D., State health commissioner, Richmond.

Assistant health commissioner and director of rural health work:

*Roy K. Flannagan, M. D., Richmond.
 *C. R. Kelley, associate director of rural health work.

Registrar of vital statistics:

*W. A. Plecker, M. D., Richmond.

Bacteriologist:

*G. F. McGinnis, M. D., Richmond.

Sanitary engineer:

Richard Messer, C. E., Richmond.

Bureau of child welfare:

*Mary E. Brydon, M. D., Richmond.

Director public health nursing:

*Nannie J. Minor, R. N., Richmond.

Director mouth hygiene:

*N. Talley Ballou, D. D. S., Richmond.

Director tuberculosis out-patient service:

*Agnes D. Randolph, R. N., Richmond.

Epidemiologist:

*H. G. Grant, M. D.

Director social hygiene education:

*Mrs. F. B. Croxton, R. N., Richmond.

Appropriations for fiscal year ending June 30, 1927:

| | |
|--|----------|
| Administration..... | \$23,830 |
| Sanitary engineering..... | 17,750 |
| Publicity..... | 5,600 |
| Rural health work..... | 59,210 |
| Inspection of convict camps..... | 3,000 |
| Laboratory..... | 20,195 |
| Child welfare and public health nursing..... | 50,000 |
| Bureau of social hygiene..... | 10,000 |
| Control of epidemics..... | 10,000 |
| Vital statistics..... | 24,535 |
| Collection and publication of marriage and divorce statistics..... | 3,615 |
| Prevention of blindness..... | 2,300 |
| Tuberculosis education..... | 63,640 |
| Total..... | 293,675 |

Publications issued by health department:

Monthly bulletin.

Annual report.

WASHINGTON

Board of health:

A. E. Stuht, M. D., director of health, chairman.

Clarence A. Smith, M. D., Seattle, Wash.

James H. Egan, M. D.

Samuel L. Caldbick, M. D., Everett.

John O'Shea, M. D., Spokane.

H. W. Nightingale, secretary, Seattle.

Executive health officer:

*A. E. Stuht, M. D., State director of health, Seattle.

Epidemiologist:

*A. U. Simpson, M. D., Seattle.

Chief of laboratory:

*A. U. Simpson, M. D., Seattle.

Sanitary engineer:

*H. W. Nightingale, C. E., Seattle.

Registrar:

*H. W. Nightingale, C. E., Seattle.

Division of child hygiene:

*A. E. Stuht, M. D., chief.

Division of public health nursing.

*Mary Louise Allen, chief.

Appropriation for two years ending March 31, 1929:

| | |
|--|----------|
| Operations..... | \$89,000 |
| Division of child hygiene—Federal..... | 5,000 |
| Tuberculosis hospitals (State aid to local sanatoria)..... | 125,000 |

WEST VIRGINIA

Public health council:

H. G. Camper, M. D., president, Welch.

W. M. Babb, M. D., Keyser.

J. L. Pyle, M. D., Chester.

W. S. Fulton, M. D., Wheeling.

H. A. Barbee, M. D., Point Pleasant.

B. O. Robinson, M. D., Parkersburg.

W. T. Henshaw, M. D., commissioner of health, Charleston.

Executive health officer:

*W. T. Henshaw, M. D., commissioner of health, Charleston.

Division of sanitary engineering:

*Ellis S. Tisdale, chief engineer, Charleston.

*John B. Harrington, assistant engineer, Charleston.

*Daniel W. Evans, assistant engineer, Charleston.

Division of vital statistics:

*Carl F. Raver, M. D., M. P. H., director, Charleston.

Division of child welfare and public health nursing:

*R. H. Paden, M. D., director.

*Edna M. Hardsaw, R. N., field advisory nurse, Charleston.

*Jean T. Dillon, R. N., field advisory nurse.

*Wayne Welton Gadd, field advisory nurse, Charleston.

Hygienic laboratory:

*Elizabeth I. Parsons, director, Charleston.

*Harriet K. Storm, chemist, Charleston.

*Thomas Moore, technician, Charleston.

Division of preventable diseases:

*W. T. Henshaw, acting director.

Bureau of venereal diseases:

*David Littlejohn, U. S. P. H. S., acting director, Charleston.

*Ada L. Coddington, associate director, Charleston.

Bureau of rural sanitation:

*David Littlejohn, A. A. Surgeon, U. S. P. H. S., director, Charleston.

Division of public health education:

*Dorothea Campbell, director, Charleston.

Appropriations for fiscal year ending June 30, 1927:

| | |
|-----------------------------|-----------|
| For general use..... | \$110,000 |
| Salary of commissioner..... | 4,800 |
| State Sheppard-Towner..... | 5,000 |
| Total..... | 119,800 |

Other sources of revenue:

Fees for granting certificates to practice medicine.

Fees from laboratory work for private individuals.

Expense of cooperative work with the Federal Government: Sheppard-Towner Act relating to maternal and infant hygiene, \$10,000.

Publications issued by health department:

Quarterly bulletin.

Annual report.

WISCONSIN

Board of health:

G. Windesheim, M. D., president, Kenosha.

Joseph Dean, M. D., vice president, Madison.

J. J. Seelman, M. D., Milwaukee.

Mina B. Glasier, M. D., Bloomington.

Stephen Cahana, M. D., Milwaukee.

H. H. Ainsworth, M. D., Birchwood.

C. A. Harper, M. D., State health officer, Madison.

Executive health officer:

*C. A. Harper, M. D., State health officer, Madison.

Assistant State health officer:

*G. W. Henika, M. D., assistant State health officer, Madison.

Deputy State health officers:

*W. J. Müller, M. D., Madison.

*G. E. Hoyt, M. D., Milwaukee.

*V. A. Gudex, M. D., Oshkosh.

*I. D. Wiltout, M. D., Chippewa Falls.

*R. L. Frisbie, M. D., Rhinelander.

Bureau of vital statistics:

*C. A. Harper, M. D., State registrar, Madison.

*L. W. Hutchcroft, statistician, Madison.

Bureau of communicable diseases:

*H. M. Guilford, M. D., director, Madison.

Bureau of sanitary engineering:

*L. F. Warrick, State sanitary engineer, Madison.

*O. J. Muegge, assistant sanitary engineer, Madison.

*E. J. Beatty, assistant sanitary engineer, Madison.

*W. U. Gallaher, assistant sanitary engineer, Madison.

*E. J. Tully, chemical engineer, Madison.

Bureau of education:

- *L. W. Bridgman, acting director, Madison.

Bureau of child welfare:

- *Cora S. Allen, M. D., director, Madison.
- *Charlotte Calvert, M. D., child health physician, Madison.
- *Eleanor Hutchinson, M. D., child health physician, Madison.
- *Margaret Nelson, M. D., child health physician, Madison.
- *Margaret J. Hatfield, M. D., child health physician.
- *Helen Thayer, organizer of infant hygiene courses, Madison.

Bureau of public health nursing:

- *Cornelia Van Kooy, R. N., director, Madison.
- *Edith L. Olson, R. N., field advisory nurse, Madison.

Bureau of nursing education:

- *Adda Eldredge, R. N., director, Madison.

Bureau of plumbing and domestic sanitary engineering:

- *Frank R. King, State domestic sanitary engineer, Madison.

Bureau of social hygiene:

- *H. M. Guilford, M. D., director, Madison.
- *Aimee Zillmer, lecturer, Madison.
- *Frank Sherwood, lecturer, Lake Villa, Illinois.

Laboratory service:

- *W. D. Stovall, M. D., director, State laboratories, Madison.
- *M. S. Nichols, chemist, State Laboratory, Madison.
- *Anna Brandsmark, director, branch laboratory, Rhinelander.
- *Jane Hyde, director, cooperative laboratory, Beloit.
- *Majorie Bates, director, cooperative laboratory, Oshkosh.
- *Henry Miller, director, cooperative laboratory, Kenosha.
- *Josephine Foote, director, cooperative laboratory, Wausau.
- *Mrs. Bessie Keeney, director, cooperative laboratory, Superior.

Laboratory service—Continued.

- *Clarissa McFetridge, director, cooperative laboratory, Green Bay.

Appropriations for fiscal year ending June 30, 1928:

| | |
|---|----------|
| General administration..... | \$54,000 |
| Emergency appropriation for epidemics..... | 7,500 |
| Branch laboratory and State cooperative laboratories..... | 9,000 |
| Prevention of infantile blindness..... | 1,500 |
| Veneral disease control work..... | 36,370 |
| Bureau of sanitary engineering..... | 14,000 |
| Bureau of communicable diseases..... | 13,300 |
| Prevention of stream and lake pollution..... | 15,000 |
| Bureau of child welfare and public health nursing..... | 23,000 |
| Public health work and the investigation and prevention of disease among the Indians..... | 8,000 |
| Comfort station supervision..... | 5,000 |
| Licensing of embalmers, hotels and restaurants, plumbers, beauty parlors, nurses and barbers..... | 84,525 |
| Total..... | 271,195 |

Publications issued by health department:

- Quarterly bulletin.
- Biennial report.

WYOMING

Board of health:

- Albert B. Tonkin, M. D., president, Riverton.
- G. L. Strader, M. D., vice president, Cheyenne.
- W. H. Hassed, M. D., secretary and executive officer, Cheyenne.
- T. E. Marshall, M. D., Sheridan.
- B. V. McDermott, M. D., Hanna.

Executive health officer:

- *W. H. Hassed, M. D., State health officer, Cheyenne.

Appropriations for biennial period ending

March 31, 1929:

| | |
|--|----------|
| State board of health..... | \$10,000 |
| Salary of secretary..... | 8,000 |
| Salary board members..... | 400 |
| Bureau of maternity and child hygiene..... | 5,000 |
| Total..... | 24,000 |

DEATH RATES IN A GROUP OF INSURED PERSONS

Rates for Principal Causes of Death for August, 1928

The accompanying table is taken from the Statistical Bulletin for September, 1928, issued by the Metropolitan Life Insurance Co., and presents the mortality experience of the industrial insurance department of the company, by principal causes of death, for August, 1928, as compared with July, 1928, and with August, 1927. The rates are based on a strength of approximately 18,500,000 insured persons in the United States and Canada.

The Bulletin states:

Health conditions among the industrial populations of the United States and Canada during August were by no means as favorable as in either the preceding month of this year or in August of last year. In fact, the August mortality figure (8.4 per 1,000) among these industrial policyholders was a little higher than during any preceding August of the current decade, except in 1923, when an identical figure was recorded. This situation should not, however, give occasion for much concern. No other month registers as small variations in mortality, year in and year out, as does August. During the current decade the lowest August death rate was 7.5; so that the difference between the maximum and minimum for this period is less than one full point per 1,000. The cumulative death rate of the industrial policyholders this year, up to the week ended September 22, was only 3.3 per cent in excess of that for the corresponding period of 1927, which, in turn, was the best health year in the history of this country and Canada.

As shown in the table, the higher death rate for August as compared with the same month last year, was due in most part to increased mortality from two of the so-called "degenerative diseases"—cerebral hemorrhage and organic heart disease—supplemented by increases in the figures for diarrheal complaints and accidents.

All of the principal epidemic diseases of childhood, except measles, registered lower death rates than for August of 1927. The decline in the diphtheria death rate is particularly gratifying, in view of the increased rate in 1927, following a long series of years during which the mortality from diphtheria had been declining continuously.

The tuberculosis death rate was slightly below that for August of last year. In five of the first eight months of 1928 tuberculosis mortality has shown an improvement over the corresponding months of 1927, and "with each succeeding month prospects for a new minimum for this disease become brighter."

Death rates (annual basis) per 100,000 for principal causes of death

[Industrial department, Metropolitan Life Insurance Co.]

| Causes of death | Rate per 100,000 lives exposed ¹ | | | |
|---|---|---------------|-----------------|--------------|
| | August, 1928 | July, 1928 | August, 1927 | Year 1927 |
| Total, all causes..... | 843.2 | 809.9 | 817.6 | 887.9 |
| Typhoid fever..... | 4.4 | 2.8 | 5.7 | 4.6 |
| Measles..... | 2.2 | 5.0 | 1.7 | 4.1 |
| Scarlet fever..... | 1.0 | 2.0 | 1.8 | 3.1 |
| Whooping cough..... | 5.4 | 5.8 | 7.1 | 6.4 |
| Diphtheria..... | 4.5 | 7.0 | 7.6 | 10.6 |
| Influenza..... | 5.6 | 9.9 | 4.5 | 17.8 |
| Tuberculosis (all forms)..... | 90.9 | 83.3 | 91.8 | 93.6 |
| Tuberculosis of respiratory system..... | 79.1 | 72.9 | 80.3 | 81.9 |
| Cancer..... | 74.8 | 70.0 | 75.3 | 74.3 |
| Diabetes mellitus..... | 15.6 | 14.7 | 15.6 | 16.8 |
| Cerebral hemorrhage..... | 51.8 | 48.2 | 45.2 | 55.1 |
| Organic diseases of heart..... | 123.8 | 127.8 | 116.2 | 132.5 |
| Pneumonia (all forms)..... | 37.9 | 49.3 | 38.7 | 77.7 |
| Other respiratory diseases..... | 11.7 | 13.9 | 11.4 | 11.7 |
| Diarrhea and enteritis..... | 40.9 | 27.1 | 36.4 | 24.6 |
| Bright's disease (chronic nephritis)..... | 60.8 | 58.0 | 61.9 | 69.5 |
| Puerperal state..... | 14.4 | 13.0 | 14.8 | 15.5 |
| Suicides..... | 8.3 | 7.9 | 8.8 | 8.3 |
| Homicides..... | 6.7 | 6.1 | 7.0 | 7.3 |
| Other external causes (excluding suicides and homicides)..... | 81.9 | 71.4 | 74.1 | 63.9 |
| Traumatism by automobiles..... | 22.8 | 16.0 | 20.0 | 18.4 |
| All other causes..... | 200.8 | 186.6 | 192.1 | 190.5 |

All figures include infants insured under 1 year of age.

COURT DECISION RELATING TO PUBLIC HEALTH

Erection and operation of abattoir upheld.—(Arkansas Supreme Court; *City of Fort Smith v. Roberts*, 9 S. W. (2d) 75; decided July 2, 1928, as modified on denial of rehearing September 24, 1928.) Special Act No. 629, passed by the legislature in 1919, created the Fort Smith District Board of Health, empowered said board to promulgate regulations deemed necessary to protect the public health in the district, and expressly gave the board the right of supervision, as to their sanitary condition, of all dairies, meat and grocery stores, etc. One of the actions taken by the board was to provide for the slaughtering of animals at an abattoir to be erected, and a graduate veterinarian was appointed to supervise its operation. An abattoir was erected, and the commissioners of Fort Smith, in aid of the regulations of the board of health, passed an ordinance prescribing the fees which should be charged butchers for the use of the abattoir and the fines which should be imposed upon butchers who slaughtered animals in violation of the regulations of the board of health. The ordinance also contained various sanitary requirements pertaining to slaughtering, and provided that any citizen might erect an abattoir under plans and specifications to be approved by the board of health. After the abattoir had been in operation for over two years, appellees, who had been patrons of the abattoir, brought suit to enjoin the continued operation of the abattoir and to have the special act of 1919, the city

ordinance, and the regulations of the district board of health declared unconstitutional. The supreme court dismissed the complaint, holding that the act, the ordinance, and the regulations were valid. The contentions of the plaintiffs and the reasoning of the court are shown by the following extracts from the opinion in the case:

The first question presented is, of course, that of the constitutionality of act 629 of the acts of 1919; and we concur in the opinion of the court below that the act is constitutional. The power of the legislature to enact laws to protect the public health and to empower the cities and towns of the State to do likewise has always been recognized.

* * * * *

The leading case on the authority to regulate markets is the case known as the Slaughterhouse cases, reported in 16 Wall. 36, 21 L. Ed. 394. * * *

The act here under review and the rules and regulations of the board of health and the ordinance of the city enforcing them are far less comprehensive in their scope than was the act of the General Assembly of the State of Louisiana which the Supreme Court of the United States upheld, and we all concur in the opinion of the chancery court that the act of the legislature and the ordinance of the city making effective the rules and regulations of the board of health are not unconstitutional. [Cases cited.]

It is insisted, however, that the legislature has not itself exercised this police power by appropriate legislation, but has delegated that function to an administrative board having no power to legislate; and this we conceive to be the real question in the case.

In the case of *State v. Martin & Lipe*, 134 Ark. 420, 204 S. W. 622, it was said that—

"It is a well-established rule of law that legislative bodies have no right to delegate the lawmaking power to executive officers or administrative boards, but it is settled in this State that the legislature may delegate 'the power to determine some fact or state of things upon which the law makes or tends to make its own action depend'."

The case just quoted from involved the validity of a rule of the State board of health regarding the vaccination of children and the presentation of a certificate showing a successful vaccination as a condition precedent to enrollment as a pupil in the public schools of the State, and the rule was upheld as a valid exercise of the police power and as not being a delegation of legislative power to the board of health.

* * * * *

Of course, the regulations must be reasonable and just, and it is not permissible, under the guise of regulation, to exact such fees as would make the abattoir a necessary source of revenue to the city and county, although the fact that the abattoir was not operated at a loss would not make the city ordinance a revenue measure. * * *

We think the undisputed testimony shows that no profit is derived from the operation of the abattoir. This, however, is not the only test of the reasonableness of the regulations. The fees charged might not be a source of revenue and yet be so burdensome as to drive butchers using the abattoir out of business by depriving them of a reasonable profit in the operation of their business. We do not think that showing was made in this case. * * *

* * * The fees now charged are insufficient to pay operating costs, and the city and the Fort Smith district of the county are paying the deficit.

* * * * *

It is true that dealers in meats which are shipped into the city by the nonresident packers in interstate commerce avoid this expense which the local butchers bear, but we judicially know that such meats have been inspected under Federal laws, and the purpose of all the regulation by Federal, State, or municipal authorities is to have the meats inspected so that it may be known that they are fit for human consumption.

* * * * *

The majority of the court have concluded that the testimony does not show that the fees charged are unreasonable, excessive, discriminatory, or arbitrary, that the legislation is not unconstitutional, and that the regulations of the district board of health are not unreasonable.

PUBLIC HEALTH ENGINEERING ABSTRACTS

The Prevalence and Epidemiology of Hookworm and Other Helminthic Infections in India. X. Central India and Bombay; XI. Madras Presidency and Southern States. Asa C. Chandler. *Indian Journal of Medical Research* vol. 15, No. 1, July, 1927, pp. 143-180. (Abstract by N. R. Stoll.)

The Central India and Bombay region here under study comprises 440,000 square miles and a population of 63,000,000. Examinations were made of 1,606 specimens in 18 localities. Hookworm was generally low but variable. Some localities were entirely free; in others the incidence reached 92 per cent, although intensity was always moderate, the maximum average being 480 eggs per gram (unformed). The variability was related to great variation in climatic conditions and the nature of the soil. *Ascaris* and *Trichuris* were comparatively uncommon, guinea worm and the dwarf tapeworm comparatively common. "The degree of hookworm infection is so light throughout all of this area except the Konkan Division of Bombay that no special measures for its reduction appear to be necessary; the climatic conditions take care of the situation."

In the Madras Presidency and Southern States, the worm burdens are greater. The region considered has 184,000 square miles and a population of 53,922,600, and "unlike any other part of India has been the scene of very extensive investigation into the prevalence and importance of hookworm infection," notably by Mhaskar and Kendrick. Chandler's studies included 21 localities and 1,605 examinations, his findings in the main being harmonious with other work there. While in some areas hookworm infection was very light (4 per cent incidence with an average of 2 eggs per gram), in others it was moderately severe (100 per cent infected and 2,084 eggs per gram, unformed). "Considering the number of people living in the moderately or heavily infected areas there is probably more injurious hookworm infection in south India than in all other parts of India combined." However, infection in Indian coolies is less at home than it is after emigration to countries with more favorable conditions for the propagation of hookworm infections. "Now it can be accepted as an indisputable fact that the Indian coolies who develop heavy and highly injurious infections abroad are for the most part lightly infected and practically immune from symptoms in their own country." The amount and distribution of the rainfall is the dominant factor in determining the degree of hookworm infection in this region.

Ascaris infection is correlated, by the author, with gross pollution of drinking water.

Control of Public Milk Supplies. William F. King. *Journal of the American Medical Association*, vol. 91, No. 8, August 25, 1928, pp. 552-555. (Abstract by W. L. Havens.)

Attempts to regulate or control public milk supplies date back as far as the sixteenth century; but since milk is a splendid medium for the transmission of certain diseases, the need for more careful control has by no means diminished. The article mentions as important phases of milk control the examination and test of animals for disease, official inspection and control of methods of milk production, facilities for the well-being and care of animals, control of dairy equipment, cooling and handling of milk, methods of production and handling, and all conditions connected with the transportation and delivery of the milk. The Indiana State Board of Health has adopted the following program for the purpose of improving the milk supplies of the State: (1) Maintenance of a central milk laboratory in the department; (2) milk survey; (3) enactment of effective milk ordinances in all cities; (4) elimination of tuberculosis and infectious abortion from all dairy herds; (5) cooperation; (6) education of the public.

The History of an Outbreak of Typhoid Fever in Pretoria. Adrianus Pijper and B. Davidine Pullinger. *British Medical Journal*, No. 3509, April 7, 1928, pp. 587-589. (Abstract by A. L. Dopmeyer.)

This article gives an account of an outbreak of typhoid fever involving the milk supply of a certain dairy. There were 28 cases, including seven employees of the dairy. There was but one death, although the disease was not of a mild type. This low mortality is attributed partly to the prompt recognition of the disease in the later cases.

The point stressed in this article is that by using the complement fixation test (the procedure of which is given in detail) a positive serological diagnosis of typhoid fever could be made, where the presence of the disease was demonstrated by positive blood cultures, but where Widal's agglutination test was persistently negative.

The Sanitary Significance of Lactose-Fermenting Bacteria Not Belonging to the B. Coli Group. 3. **Bacterial Associations in Cultures Containing Lactose-Fermenting Bacteria.** Frank E. Greer and F. V. Nyhan. *Journal of Infectious Diseases*, vol. 42, No. 6, June, 1928, pp. 525-536. (Abstract by C. T. Butterfield.)

The authors review the literature of lactose-fermenting bacteria dealing with bacterial antagonism, bacterial synergism, lethal pH, and symbiosis.

Experimental work is discussed in which the following bacterial mixtures were tried: (a) *B. coli* with—(1) *Ps. pyocyaneus*, (2) *B. aerosporus*, (3) *St. fecalis*, and (4) with *Cl. welchii*; (b) *St. fecalis* with—(1) *B. aerosporus*, (2) *Ps. pyocyaneus*, and (3) *Cl. welchii*; (c) *B. aerosporus* with—(1) *Cl. welchii*, and (2) *Ps. pyocyaneus*; and (d) *Ps. pyocyaneus* with *Cl. welchii*. The results indicate that *B. coli* may be outgrown by *St. fecalis*, *Cl. welchii*, and *Ps. pyocyaneus* in 48 hours. *B. coli* was usually isolated from the mixtures when confirmation was started at the 24-hour period. The numerical order of the organisms most likely to be isolated from the mixtures at the end of 24 hours was as follows: (1) *B. coli*; (2) *Cl. welchii*; (3) *Ps. pyocyaneus*; (4) *St. fecalis*; and (5) *B. aerosporus*; and at 48 hours was (1) *St. fecalis*; (2) *Ps. pyocyaneus*; (3) *Cl. welchii*; (4) *B. coli*; and (5) *B. aerosporus*.

The Sanitary Significance of Lactose-Fermenting Bacteria Not Belonging to the B. Coli Group. 4. **Pathogenicity.** F. E. Greer, F. O. Tonney, and F. V. Nyhan. *Journal of Infectious Diseases*, vol. 42, No. 6, June, 1928, pp. 537-544. (Abstract by C. T. Butterfield.)

The literature dealing with the pathogenicity of the *mucosus-capsulatus* group, *Cl. welchii* and *Ps. pyocyaneus*, is reviewed. *Cl. welchii* in particular is considered in its relation to the incidence of gas gangrene, diarrhea, intestinal toxemia, pernicious anemia, carbohydrate intolerance, and food poisoning.

Experimental work is presented on the pathogenicity of *B. aerosporus*, *St. fecalis*, *Cl. welchii*, the *mucosus-capsulatus* group, and *Ps. pyocyaneus* for laboratory animals. The strains of *B. aerosporus* and *St. fecalis* employed did not produce any pathological condition. *Ps. pyocyaneus* and the *mucosus-capsulatus* group killed mice in 48 to 72 hours when injected intraperitoneally. Feeding experiments were not reported. In the experiments with *Cl. welchii*, the effects of feeding and of injections were tried. The evidence presented indicates that the injection may cause diarrhea, toxemia, and death, and that as a result of feeding diarrhea is frequently produced.

Most of the cultures used in this study were isolated from drinking-water supplies.

The Sanitary Significance of Lactose-Fermenting Bacteria not Belonging to the B. Coli Group. 5. Factors Influencing the Survival of Microorganisms in Water. F. E. Greer. *Journal of Infectious Diseases*, vol. 42, No. 6, June, 1928, pp. 545-550. (Abstract by C. T. Butterfield.)

A theoretical study of the factors influencing the survival of bacteria in water, briefly reviewing the literature of the subject is given. The action of plankton, sunlight, aeration, dilution, sedimentation, and the bacteriophage are considered in their relation to Lake Michigan water. No new experimental data are presented.

The Sanitary Significance of Lactose-Fermenting Bacteria not in the B. Coli Group. 6. Sanitary Considerations. F. E. Greer. *Journal of Infectious Diseases*, vol. 42, No. 6, June, 1928, pp. 551-555. (Abstract by C. T. Butterfield.)

The author reviews the literature dealing with the sanitary significance of *Cl. welchii*, *B. aerosporus*, and *St. fecalis*.

In the experimental results, *B. aerosporus* was found in 17 out of 18 samples of horse feces, in 11 of 14 samples of cow feces, in 1 of 18 samples of human feces, in 3 of 44 samples of sewage, in 7 of 9 fertilized soils, and in none of 70 well waters examined.

In examining for fecal streptococci, these organisms were found in 44 out of 44 samples of sewage, in 58 of 58 specimens of human feces, in 2 of 18 samples of horse feces, and in none of 18 samples of cow manure. Methods employed in both studies are given.

The author concludes that in addition to *B. coli*, *St. fecalis*, *Cl. welchii*, and *Ps. pyocyaneus* may be of sanitary significance; that *St. fecalis* is probably of equal significance to *B. coli*, while the latter two may be of lesser importance. He states that *B. aerosporus* probably has no sanitary significance.

The Sanitary Significance of Lactose-Fermenting Organisms not Belonging to the B. Coli Group. 7. Mediums and Methods. F. E. Greer, R. E. Noble, F. V. Nyhan, and A. E. O'Neil. *Journal of Infectious Diseases*, vol. 42, No. 6, June, 1928, pp. 556-567. (Abstract by C. T. Butterfield.)

The literature dealing with selective media for the *coli-aerogenes* group is reviewed.

In the experimental work it was observed that bile used in sufficient concentration to inhibit *B. aerosporus* also inhibited many *B. coli*. Brilliant green bile was highly selective, but gave a lower colon-index than lactose broth. Eosin-methylene blue agar was found to be superior to Endo's medium for the partially confirmed test.

The authors recommend, for the presumptive test, lactose broth; partially confirmed, eosin-methylene blue; and for the completed test, agar slants and lactose

broth. Using this procedure they discard as negative at each step all tubes and plates which previous experience and continuous observation have proved not to be *B. coli*. This eliminates negative cultures early and speeds up the procedure.

The Sanitary Significance of Lactose-Fermenting Organisms not Belonging to the *B. Coli* Group. 8. Conclusions. F. E. Greer and R. E. Noble. *Journal of Infectious Diseases*, vol. 42, No. 6, June, 1928, pp. 568-574. (Abstract by C. T. Butterfield.)

In this article the authors summarize the material which has been presented in the preceding papers and emphasize the following points: (1) There are organisms in water other than *B. coli* which ferment lactose; (2) sanitary significance should be attached to some of these; (3) This is particularly true of *St. fecalis*, *Cl. welchii*, the *mucosus-capsulatus* group, and *Ps. pyocyaneus* may also be significant; (4) all special media so far developed have limitations; (5) a promising field for future work is the development of direct plating methods.

Filter Plant Provides Public Square and Bath Houses. Paul Hansen. *Engineering News-Record*, vol. 101, No. 3, July 19, 1928, pp. 87-88. (Abstract by C. K. Calvert.)

A rapid sand filtration plant is being built for Kenilworth, Ill. Average consumption of water is estimated at 0.5 m. g. d., but on account of excessive sprinkling it is assumed that the maximum rate may be 1.25 for short periods. The plant design is on the basis of 1.0 m. g. d., it being expected that it will be called upon to operate at 125 per cent for two weeks or less. A 30-minute reaction period is provided to insure coagulation of the microscopic organisms which give trouble in the warm months. The plant is on the lake front and is arranged to afford accommodations for recreation, bathing, dancing, etc.

The Health of Hop Pickers and the Sanitation of Hop Pickers' Encampments. Alfred Greenwood. *Journal Royal Sanitary Institute*, vol. 48, No. 12, June, 1928, pp. 611-622. (Abstract by R. T. Morton.)

This paper discusses at length the conditions and difficulties of sanitation attending hop-pickers' camps. It refers particularly to the county of Kent where over 15,000 acres are devoted to hop growing of the total hop acreage of about 26,000 acres in England and Wales. Large numbers of persons, chiefly women and children from London, migrate to the hop fields and camp there during the picking season. The paper considers (a) sanitation of hopper encampments and (b) treatment of injuries and sickness.

Sanitation is under the Ministry of Health and locally under the Rural District Council. Conclusions are that conditions are greatly improved but still very bad in places; sufficient machinery is available for control; by-laws of the Ministry of Health are definite but sometimes modified in adoption and not strictly enforced; licensing of encampments should be considered.

The treatment of sickness and injury is often inadequate, although some growers have contracted for medical service and a number of voluntary organizations are doing excellent work in providing dispensaries, infirmaries, and a few hospitals, especially for hop pickers. A very small proportion of the workers can afford to pay medical fees. The writer considers the formation of a special hop pickers' health committee.

Sanitary Regulations of Tourists' Camps (Adopted by Indiana State Board of Health, June 5, 1923). *Monthly Bulletin*, Indiana State Board of Health, vol. 31, No. 6, June, 1928, p. 93. (Abstract by E. A. Reinke.)

Rules provide that camp sites must be well drained; have an adequate supply of potable water; modern flush toilets, if possible; if not, approved fly-tight privies; garbage and refuse cans with daily removal; placarding camp by local

health authority; inspection under direction of State board of health; and closing camp if recommendations are not carried out.

Sanitary Improvement of County Fairs—Water Supply and Toilets at Fair Grounds in Illinois. Carl D. Gross and Harry F. Ferguson. Supplement, *Illinois Health News*, vol. 14, No. 7, July, 1928 (New Series), pp. 233-239. (Abstract by W. L. Havens.)

Since 1926 sanitary inspections have been made of all Illinois fair grounds by the Division of Sanitary Engineering of the Illinois Department of Public Health, cooperating with the Department of Agriculture. With respect to the water supply, regulations provide that only safe water be available, whether from city supplies or from wells. All wells must meet the specifications of the department. Water must be cooled by passage under pressure through coils of pipe surrounded by ice, and sanitary bubblers should be installed for drinking purposes. Water-flushed toilets are considered most desirable with the sewage discharged into city sewers or treated in septic tanks followed by subsurface tile filters. Sanitary pit privies are considered more satisfactory than water flushed concrete-trough toilets. Chemical toilets are generally satisfactory if properly installed and maintained. The article contains a summary of the conditions found at each fair ground in 1927.

General Sanitation. Henry F. Vaughan. *Public Health Bulletin No. 164* (U. S. P. H. S.), July, 1926, Municipal Health Department Practice for Year 1923, pp. 524-545. (Abstract by J. M. Henderson.)

Interesting statistical comparisons are made covering the various sanitary functions performed by the municipal health departments surveyed. The author reviews sanitary activities, notes trend toward the changing and reclassifying of functions, and makes recommendations.

A transference of nuisance inspection, of the placarding and quarantining of dwellings, and of other routine inspection work, from the present sanitary inspectors to a special uniformed detail from the police department, which is trained and controlled but not paid by the health department, is recommended. Plumbing inspection is being and should properly be placed under the direction of the building department. Garbage and refuse collection and disposal is still under the control of the health department in 22 cities.

The study shows that sanitary activities receive 16.2 per cent of the total budget applied to strictly health department functions, or 9.2 cents per capita. Prediction is made that as health department sanitary bureaus become more completely divorced from costly routine inspection work and plumbing inspections, and devote their attention to more general problems, there will be an appreciable reduction in this percentage.

DEATHS DURING WEEK ENDED OCTOBER 20, 1928

Summary of information received by telegraph from industrial insurance companies for the week ended October 20, 1928, and corresponding week of 1927. (From the Weekly Health Index, October 24, 1928, issued by the Bureau of the Census, Department of Commerce)

| | Week ended Oct. 20, 1928 | Corresponding week, 1927 |
|--|-----------------------------|-----------------------------|
| Policies in force..... | 71, 981, 748 | 69, 081, 864 |
| Number of death claims..... | 14, 176 | 12, 382 |
| Death claims per 1,000 policies in force, annual rate... | 10. 3 | 9. 3 |

Deaths from all causes in certain large cities of the United States during the week ended October, 20, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, October 24, 1928, issued by the Bureau of the Census, Department of Commerce)

| City | Week ended Oct. 20, 1928 | | Annual death rate per 1,000 corres- ponding week 1927 | Deaths under 1 year | | Infant mortality rate, week ended Oct. 20, 1928 ² |
|-------------------------------|-----------------------------|----------------------------|--|-----------------------------------|------------------------------------|--|
| | Total deaths | Death rate ¹ | | Week ended Oct. 20, 1928 | Corres- ponding week 1927 | |
| Total (68 cities)..... | 7, 116 | 12. 3 | 11. 4 | 760 | 732 | 63 |
| Albany ³ | 46 | 20. 0 | 18. 8 | 1 | 4 | 20 |
| Atlanta..... | 71 | 14. 6 | 13. 4 | 6 | 11 | ----- |
| White..... | 36 | (⁴) | 9. 8 | 1 | 6 | ----- |
| Colored..... | 35 | (⁴) | 21. 9 | 5 | 5 | ----- |
| Baltimore ³ | 222 | 14. 0 | 12. 9 | 31 | 35 | 98 |
| White..... | 170 | (⁴) | 10. 7 | 19 | 23 | 76 |
| Colored..... | 52 | (⁴) | 25. 5 | 12 | 12 | 188 |
| Birmingham..... | 67 | 15. 8 | 18. 2 | 14 | 12 | 120 |
| White..... | 34 | (⁴) | 16. 9 | 5 | 5 | 69 |
| Colored..... | 33 | (⁴) | 20. 3 | 9 | 7 | 203 |
| Boston..... | 232 | 15. 2 | 11. 9 | 17 | 26 | 47 |
| Bridgeport..... | 32 | (⁴) | (⁴) | 4 | 1 | 73 |
| Buffalo..... | 131 | 12. 3 | 11. 7 | 9 | 12 | 39 |
| Cambridge..... | 25 | 10. 4 | 11. 4 | 3 | 3 | 53 |
| Camden..... | 29 | 11. 2 | 12. 9 | 7 | 7 | 112 |
| Canton..... | 28 | 12. 5 | 5. 1 | 4 | 4 | 95 |
| Chicago ³ | 670 | 11. 1 | 12. 0 | 76 | 75 | 65 |
| Cincinnati..... | 127 | 16. 1 | 16. 4 | 13 | 12 | 79 |
| Cleveland..... | 183 | 9. 5 | 8. 7 | 23 | 15 | 62 |
| Columbus..... | 59 | 10. 4 | 11. 1 | 5 | 9 | 47 |
| Dallas..... | 49 | 11. 8 | 13. 6 | 9 | 8 | ----- |
| White..... | 38 | (⁴) | 12. 5 | 8 | 6 | ----- |
| Colored..... | 11 | (⁴) | 20. 9 | 1 | 2 | ----- |
| Dayton..... | 40 | 11. 3 | 13. 6 | 7 | 9 | 116 |
| Denver..... | 79 | 14. 0 | 13. 0 | 11 | 6 | ----- |
| Des Moines..... | 38 | 13. 1 | 11. 9 | 1 | 0 | 17 |
| Detroit..... | 287 | 10. 9 | 9. 6 | 32 | 39 | 49 |
| Duluth..... | 24 | 10. 7 | 11. 4 | 3 | 0 | 70 |
| El Paso..... | 32 | 14. 2 | 14. 7 | 5 | 2 | ----- |
| Erie..... | 22 | (⁴) | (⁴) | 2 | 2 | 41 |
| Fall River ³ | 23 | 9. 0 | 9. 0 | 4 | 7 | 69 |
| Flint..... | 34 | 11. 9 | 13. 5 | 9 | 10 | 115 |
| Fort Worth..... | 26 | 8. 1 | 13. 1 | 2 | 11 | ----- |
| White..... | 22 | (⁴) | 13. 8 | 2 | 10 | ----- |
| Colored..... | 4 | (⁴) | 8. 0 | 0 | 1 | ----- |
| Grand Rapids..... | 33 | 10. 5 | 11. 3 | 4 | 4 | 60 |
| Houston..... | 63 | (⁴) | (⁴) | 5 | 10 | ----- |
| White..... | 39 | (⁴) | (⁴) | 4 | 5 | ----- |
| Colored..... | 14 | (⁴) | (⁴) | 1 | 5 | ----- |
| Indianapolis..... | 94 | 12. 9 | 13. 9 | 5 | 9 | 38 |
| White..... | 83 | (⁴) | 13. 6 | 4 | 7 | 35 |
| Colored..... | 11 | (⁴) | 16. 3 | 1 | 2 | 61 |

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

³ Deaths for week ended Friday, Oct. 19, 1928.

⁴ In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, Ky., 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

Deaths from all causes in certain large cities of the United States during the week ended October, 20, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, October 24, 1928, issued by the Bureau of the Census, Department of Commerce)—Continued

| City | Week ended Oct. 20, 1928 | | Annual death rate per 1,000 corresponding week 1927 | Deaths under 1 year | | Infant mortality rate, week ended Oct. 20, 1928 |
|--------------------|--------------------------|------------------|---|--------------------------|-------------------------|---|
| | Total deaths | Death rate | | Week ended Oct. 20, 1928 | Corresponding week 1927 | |
| Jersey City | 70 | 11.3 | 12.3 | 11 | 8 | 82 |
| Kansas City, Kans. | 29 | 12.8 | 10.2 | 5 | 2 | 106 |
| White | 25 | | 9.7 | 4 | 0 | 99 |
| Colored | 4 | (¹) | 12.3 | 1 | 2 | 145 |
| Kansas City, Mo. | 89 | 11.9 | 12.8 | 8 | 9 | 57 |
| Knoxville | 15 | 7.4 | 13.3 | 0 | 3 | 0 |
| White | 10 | | 10.4 | 0 | 1 | 0 |
| Colored | 5 | (¹) | 34.1 | 0 | 2 | 0 |
| Los Angeles | 299 | | | 24 | 24 | 69 |
| Louisville | 91 | 11.4 | 10.9 | 10 | 9 | 84 |
| White | 68 | | 10.0 | | 7 | |
| Colored | 23 | (¹) | 16.0 | | 2 | |
| Lowell | 29 | 13.7 | 10.4 | 6 | 3 | 125 |
| Lynn | 24 | 11.9 | 7.5 | 2 | 2 | 50 |
| Memphis | 61 | 16.8 | 19.2 | 3 | 8 | 35 |
| White | 31 | | 12.6 | 1 | 2 | 19 |
| Colored | 30 | (¹) | 31.3 | 2 | 6 | 63 |
| Milwaukee | 100 | 9.6 | 8.5 | 9 | 8 | 40 |
| Minneapolis | 95 | 10.9 | 11.3 | 10 | 3 | 60 |
| Nashville | 57 | 21.5 | 19.3 | 5 | 4 | 79 |
| White | 31 | | 16.9 | 2 | 2 | 43 |
| Colored | 26 | (¹) | 25.5 | 3 | 2 | 180 |
| New Bedford | 26 | 11.4 | 6.5 | 7 | 0 | 152 |
| New Orleans | 124 | 15.1 | 16.6 | 18 | 12 | 87 |
| White | 71 | | 12.1 | 12 | 7 | 87 |
| Colored | 53 | (¹) | 29.3 | 6 | 5 | 87 |
| New York | 1,474 | 12.8 | 9.8 | 161 | 137 | 65 |
| Bronx Borough | 199 | 10.9 | 7.8 | 16 | 9 | 48 |
| Brooklyn Borough | 480 | 10.9 | 9.1 | 65 | 73 | 65 |
| Manhattan Borough | 604 | 18.0 | 12.8 | 66 | 44 | 78 |
| Queens Borough | 138 | 8.4 | 7.5 | 13 | 8 | 52 |
| Richmond Borough | 53 | 18.4 | 10.7 | 1 | 3 | 18 |
| Newark, N. J. | 105 | 11.6 | 9.5 | 12 | 15 | 62 |
| Oakland | 57 | 10.9 | 9.4 | 5 | 7 | 54 |
| Oklahoma City | 27 | | | 2 | 1 | |
| Omaha | 56 | 13.1 | 12.1 | 4 | 4 | 46 |
| Paterson | 42 | 15.2 | 11.2 | 4 | 4 | 69 |
| Philadelphia | 471 | 11.9 | 11.3 | 50 | 53 | 67 |
| Pittsburgh | 174 | 13.5 | 13.9 | 11 | 21 | 36 |
| Portland, Oreg. | 76 | | | 3 | 1 | 32 |
| Providence | 73 | 13.3 | 9.1 | 7 | 5 | 61 |
| Richmond | 65 | 17.5 | 12.0 | 6 | 7 | 78 |
| White | 42 | | 9.6 | 2 | 5 | 41 |
| Colored | 23 | (¹) | 17.8 | 4 | 2 | 147 |
| Rochester | 63 | 10.0 | 10.3 | 3 | 2 | 24 |
| St. Louis | 222 | 13.7 | 12.9 | 14 | 17 | 47 |
| St. Paul | 43 | 8.9 | 8.3 | 4 | 1 | 38 |
| Salt Lake City | 26 | 9.9 | 11.9 | 3 | 2 | 49 |
| San Antonio | 58 | 13.9 | 12.3 | 8 | 5 | |
| San Diego | 43 | 18.8 | 14.0 | 3 | 1 | 57 |
| San Francisco | 137 | 12.2 | 12.8 | 4 | 4 | 25 |
| Schenectady | 16 | 9.0 | 11.7 | 2 | 0 | 63 |
| Somerville | 16 | 8.1 | 6.2 | 2 | 1 | 69 |
| Spokane | 27 | 12.9 | 14.8 | 0 | 0 | 0 |
| Springfield, Mass. | 34 | 11.9 | 12.0 | 4 | 4 | 63 |
| Syracuse | 47 | 12.3 | 14.6 | 3 | 7 | 36 |
| Tacoma | 23 | 10.9 | 12.2 | 4 | 2 | 102 |
| Toledo | 74 | 12.4 | 10.8 | 10 | 5 | 96 |
| Trenton | 30 | 11.3 | 12.2 | 8 | 6 | 136 |
| Utica | 17 | 8.5 | 13.6 | 0 | 1 | 0 |
| Washington, D. C. | 134 | 12.7 | 10.9 | 15 | 7 | 86 |
| White | 83 | | 9.0 | 10 | 3 | 83 |
| Colored | 51 | (¹) | 16.5 | 5 | 4 | 92 |
| Waterbury | 14 | | | 4 | 1 | 116 |
| Wilmington, Del. | 30 | 12.2 | 8.5 | 5 | 4 | 132 |
| Worcester | 45 | 11.9 | 9.6 | 5 | 3 | 61 |
| Yonkers | 17 | 7.3 | 9.2 | 0 | 3 | 0 |
| Youngstown | 38 | 11.4 | 8.0 | 8 | 3 | 107 |

¹ Deaths for week ended Friday, October 19, 1928.

² In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, Ky., 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended October 20, 1928, and October 22, 1927

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended October 20, 1928, and October 22, 1927

| Division and State | Diphtheria | | Influenza | | Measles | | Meningococcus meningitis | |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 |
| New England States: | | | | | | | | |
| Maine | 7 | 2 | | 2 | 34 | 18 | 0 | 0 |
| New Hampshire | 2 | | 8 | | 89 | | 0 | |
| Vermont | 1 | 4 | | | 1 | | 0 | 0 |
| Massachusetts | 92 | 106 | 12 | 5 | 243 | 122 | 3 | 1 |
| Rhode Island | 10 | 14 | | | 11 | 1 | 0 | 1 |
| Connecticut | 19 | 29 | 2 | | 35 | 2 | 4 | 1 |
| Middle Atlantic States: | | | | | | | | |
| New York | 104 | 205 | 19 | 16 | 191 | 108 | 27 | 1 |
| New Jersey | 116 | 119 | 15 | 6 | 46 | 15 | 1 | 2 |
| Pennsylvania | 181 | 211 | | | 273 | 206 | 5 | 6 |
| East North Central States: | | | | | | | | |
| Ohio | 75 | | 6 | | 70 | | 1 | |
| Indiana | 63 | 46 | 11 | 8 | 7 | 8 | 0 | 0 |
| Illinois | 162 | 166 | 22 | 13 | 75 | 35 | 3 | 7 |
| Michigan | 85 | 83 | 6 | | 66 | 24 | 2 | 2 |
| Wisconsin | 25 | 25 | 24 | 31 | 50 | 50 | 4 | 4 |
| West North Central States: | | | | | | | | |
| Minnesota | 33 | 48 | | 1 | 43 | 4 | 1 | 1 |
| Iowa | 13 | | | | | | 0 | |
| Missouri | 56 | 66 | | 1 | 16 | 6 | 2 | 1 |
| North Dakota | 10 | 4 | 3 | | 5 | 7 | 1 | 1 |
| South Dakota | 11 | 6 | | 1 | 1 | | 0 | 0 |
| Nebraska | 26 | 11 | 4 | | | 1 | 0 | 0 |
| Kansas | 12 | 37 | 5 | 8 | 2 | 32 | 1 | 0 |
| South Atlantic States: | | | | | | | | |
| Delaware | 2 | | | | 2 | 1 | 0 | 0 |
| Maryland | 41 | 32 | 3 | 11 | 12 | 13 | 0 | 0 |
| District of Columbia | 42 | 22 | | | 5 | | 0 | 0 |
| Virginia | | | | | | | | |
| West Virginia | 47 | 34 | 7 | 5 | 8 | 3 | 0 | 1 |
| North Carolina | 189 | 159 | | | 5 | 154 | 0 | 1 |
| South Carolina | 110 | 88 | 546 | 327 | | 120 | 0 | 0 |
| Georgia | 47 | 63 | 87 | 47 | 7 | 21 | 0 | 0 |
| Florida | 18 | 30 | 6 | 7 | 2 | 2 | 0 | 1 |

¹ New York City only.

² Exclusive of Kansas City, Mo.

³ Week ended Friday.

(2917)

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended October 20, 1928, and October 22, 1927—Continued

| Division and State | Diphtheria | | Influenza | | Measles | | Meningococcus meningitis | |
|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 |
| East South Central States: | | | | | | | | |
| Kentucky..... | 32 | | | | | | 0 | |
| Tennessee..... | 57 | 43 | 24 | 24 | | 25 | 0 | 0 |
| Alabama..... | 132 | 143 | 61 | 19 | 8 | 17 | 1 | 1 |
| Mississippi..... | 39 | 83 | | | | | 0 | 0 |
| West South Central States: | | | | | | | | |
| Arkansas..... | 14 | 28 | 16 | 37 | 1 | 4 | 0 | 1 |
| Louisiana..... | 18 | 39 | 3 | 10 | 3 | 6 | 0 | 0 |
| Oklahoma ¹ | 82 | 141 | 33 | 52 | 5 | 27 | 2 | 2 |
| Texas..... | 40 | 72 | 6 | 46 | 20 | 9 | 0 | 1 |
| Mountain States: | | | | | | | | |
| Montana..... | 1 | 3 | | | 14 | 2 | 2 | 1 |
| Idaho..... | 3 | 1 | | | 4 | 1 | 0 | 0 |
| Wyoming..... | | 1 | | | 1 | 6 | 0 | 0 |
| Colorado..... | 12 | 26 | 3 | 1 | 2 | | 1 | 0 |
| New Mexico..... | 3 | 7 | | 1 | 1 | 186 | 2 | 0 |
| Arizona..... | | 31 | | | | 1 | 0 | 0 |
| Utah ² | 4 | 11 | 5 | | | 4 | 1 | 1 |
| Pacific States: | | | | | | | | |
| Washington..... | 6 | 10 | | | 22 | 39 | 0 | 1 |
| Oregon..... | 19 | 12 | 25 | 11 | 16 | 9 | 2 | 1 |
| California..... | 84 | 151 | 158 | 15 | 27 | 43 | 0 | 6 |

| Division and State | Pollomyelitis | | Scarlet fever | | Smallpox | | Typhoid fever | |
|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 |
| New England States: | | | | | | | | |
| Maine..... | 4 | 13 | 41 | 35 | 1 | 0 | 1 | 4 |
| New Hampshire..... | 1 | | 8 | | 0 | | 3 | |
| Vermont..... | 0 | 7 | 2 | 10 | 0 | 0 | 0 | 1 |
| Massachusetts..... | 10 | 99 | 151 | 189 | 0 | 0 | 13 | 16 |
| Rhode Island..... | 3 | 3 | 11 | 22 | 0 | 0 | 1 | 0 |
| Connecticut..... | 3 | 9 | 21 | 30 | 0 | 0 | 1 | 4 |
| Middle Atlantic States: | | | | | | | | |
| New York..... | 27 | 32 | 176 | 158 | 0 | 7 | 78 | 59 |
| New Jersey..... | 4 | 11 | 57 | 46 | 0 | 0 | 6 | 11 |
| Pennsylvania..... | 7 | 45 | 214 | 255 | 0 | 0 | 55 | 35 |
| East North Central States: | | | | | | | | |
| Ohio..... | 11 | 46 | 153 | 0 | 4 | 0 | 25 | 0 |
| Indiana..... | 1 | 11 | 57 | 78 | 10 | 2 | 10 | 10 |
| Illinois..... | 4 | 37 | 152 | 149 | 25 | 8 | 37 | 57 |
| Michigan..... | 5 | 18 | 125 | 114 | 9 | 10 | 12 | 22 |
| Wisconsin..... | 1 | 8 | 100 | 64 | 4 | 10 | 6 | 6 |
| West North Central States: | | | | | | | | |
| Minnesota..... | 8 | 8 | 86 | 70 | 0 | 1 | 11 | 6 |
| Iowa..... | 1 | | 61 | | 5 | | 4 | |
| Missouri ³ | 0 | 7 | 56 | 49 | 4 | 0 | 15 | 23 |
| North Dakota..... | 6 | 0 | 16 | 31 | 0 | 2 | 2 | 3 |
| South Dakota..... | 0 | 5 | 10 | 25 | 3 | 10 | 1 | 1 |
| Nebraska..... | 3 | 5 | 23 | 37 | 2 | 1 | 1 | 3 |
| Kansas..... | 0 | 8 | 66 | 62 | 4 | 7 | 9 | 17 |
| South Atlantic States: | | | | | | | | |
| Delaware..... | 0 | 0 | 3 | 3 | 0 | 0 | 7 | 2 |
| Maryland ⁴ | 3 | 2 | 42 | 26 | 0 | 0 | 25 | 31 |
| District of Columbia..... | 2 | 3 | 12 | 17 | 0 | 0 | 6 | 3 |
| Virginia..... | | | | | 1 | | | |
| West Virginia..... | 9 | 17 | 81 | 48 | 3 | 6 | 29 | 36 |
| North Carolina..... | 1 | 1 | 112 | 93 | 4 | 14 | 23 | 16 |
| South Carolina..... | 2 | 3 | 17 | 41 | 4 | 4 | 39 | 51 |
| Georgia..... | 0 | 1 | 38 | 23 | 0 | 0 | 17 | 19 |
| Florida..... | 0 | 0 | 5 | 5 | 1 | 0 | 3 | 19 |

¹ Exclusive of Kansas City, Mo. ² Week ended Friday. ³ Exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended October 20, 1928, and October 22, 1927—Continued

| Division and State | Poliomyelitis | | Scarlet fever | | Smallpox | | Typhoid fever | |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 | Week ended Oct. 20, 1928 | Week ended Oct. 22, 1927 |
| East South Central States: | | | | | | | | |
| Kentucky..... | 2 | — | 58 | — | 14 | — | 21 | — |
| Tennessee..... | 0 | 7 | 34 | 53 | 0 | 6 | 35 | 36 |
| Alabama..... | 0 | 2 | 53 | 16 | 2 | 5 | 26 | 50 |
| Mississippi..... | 0 | 2 | 35 | 27 | 3 | 1 | 10 | 4 |
| West South Central States: | | | | | | | | |
| Arkansas..... | 0 | 2 | 13 | 10 | 1 | 2 | 17 | 15 |
| Louisiana..... | 0 | 2 | 3 | 10 | 2 | 3 | 9 | 22 |
| Oklahoma ¹ | 0 | 10 | 46 | 41 | 13 | 24 | 46 | 70 |
| Texas..... | 1 | 9 | 22 | 31 | 0 | 1 | 6 | 17 |
| Mountain States: | | | | | | | | |
| Montana..... | 0 | 2 | 7 | 8 | 11 | 22 | 2 | 1 |
| Idaho..... | 0 | 0 | 2 | 8 | 11 | 0 | 2 | 1 |
| Wyoming..... | 0 | 1 | 24 | 10 | 6 | 1 | 0 | 1 |
| Colorado..... | 3 | 7 | 15 | 45 | 13 | 2 | 9 | 14 |
| New Mexico..... | 0 | 7 | 13 | 14 | 0 | 3 | 15 | 25 |
| Arizona..... | 0 | 4 | 0 | 1 | 0 | 0 | 3 | 3 |
| Utah ¹ | 0 | 0 | 13 | 8 | 16 | 11 | 1 | 6 |
| Pacific States: | | | | | | | | |
| Washington..... | 11 | 22 | 20 | 53 | 11 | 13 | 4 | 4 |
| Oregon..... | 4 | 31 | 32 | 13 | 29 | 8 | 3 | 28 |
| California..... | 1 | 32 | 114 | 137 | 27 | 10 | 13 | 16 |

¹ Week ended Friday.

¹ Exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

| State | Menin- gococ- cus menin- gitis | Diph- theria | Influ- enza | Ma- laria | Mea- sles | Pel- lagra | Pollo- mye- litis | Scarlet fever | Small- pox | Ty- phoid fever |
|----------------------------------|--|-----------------|----------------|--------------|--------------|---------------|-------------------------|------------------|---------------|-----------------------|
| July, 1928 | | | | | | | | | | |
| Colorado..... | 0 | 30 | — | — | 159 | — | 4 | 111 | 6 | 16 |
| August, 1928 | | | | | | | | | | |
| Massachusetts ¹ | 8 | 175 | 12 | 3 | 325 | 3 | 164 | 225 | 2 | 46 |
| North Carolina..... | 2 | 156 | — | — | 69 | — | 11 | 111 | 44 | 305 |
| September, 1928 | | | | | | | | | | |
| Alabama..... | 4 | 261 | 246 | 2,202 | 104 | 75 | 12 | 103 | 9 | 260 |
| California..... | 10 | 227 | 84 | 15 | 84 | 4 | 24 | 280 | 78 | 89 |
| Illinois..... | 21 | 323 | 77 | 26 | 107 | 3 | 15 | 339 | 28 | 173 |
| Iowa..... | 1 | 36 | — | — | 4 | — | 11 | 96 | 9 | 22 |
| Louisiana..... | 1 | 66 | 43 | 167 | 10 | 46 | 1 | 24 | 6 | 126 |
| Maryland..... | 2 | 91 | 19 | 2 | 58 | — | 100 | 44 | 0 | 213 |
| Massachusetts..... | 5 | 157 | 26 | 3 | 157 | 2 | 120 | 316 | 0 | 43 |
| Minnesota..... | 4 | 108 | 8 | — | 37 | — | 87 | 171 | 0 | 34 |
| Mississippi..... | 1 | 139 | 2,120 | 17,728 | 111 | 1,108 | 9 | 87 | 1 | 196 |
| Missouri..... | 6 | 155 | 25 | 149 | 24 | 1 | 5 | 185 | 58 | 209 |
| New York..... | 107 | 375 | — | 12 | 351 | — | 331 | 308 | 1 | 240 |
| Rhode Island..... | 4 | 26 | — | — | 17 | — | 2 | 25 | 0 | 8 |
| South Carolina..... | — | 320 | 2,065 | 2,305 | 14 | 622 | 7 | 49 | 2 | 319 |
| Tennessee..... | 7 | 201 | 84 | 1,113 | 9 | 29 | 14 | 161 | 8 | 503 |
| West Virginia..... | 1 | 54 | 66 | — | 23 | — | 48 | 144 | 4 | 130 |
| Wisconsin..... | 4 | 81 | 88 | — | 80 | — | 6 | 213 | 15 | 25 |
| Wyoming..... | 1 | 15 | — | — | 2 | — | 2 | 63 | 4 | 3 |

¹ Figures published for Massachusetts as for August, in Public Health Reports dated Sept. 28, p. 2550, should have been published as for July.

July, 1928

| Colorado: | Cases |
|---|-------|
| Chicken pox..... | 104 |
| German measles..... | 9 |
| Lethargic encephalitis..... | 1 |
| Mumps..... | 104 |
| Rocky Mountain spotted or tick fever..... | 2 |
| Tularaemia..... | 1 |
| Undulant fever..... | 1 |
| Vincent's angina..... | 6 |
| Whooping cough..... | 215 |

August, 1928

| | |
|-------------------------|-----|
| Anthrax: | |
| Massachusetts..... | 2 |
| Chicken pox: | |
| Massachusetts..... | 81 |
| North Carolina..... | 18 |
| Dysentery: | |
| Massachusetts..... | 4 |
| German measles: | |
| Massachusetts..... | 10 |
| North Carolina..... | 2 |
| Lethargic encephalitis: | |
| Massachusetts..... | 6 |
| Mumps: | |
| Massachusetts..... | 59 |
| Ophthalmia neonatorum: | |
| Massachusetts..... | 132 |
| North Carolina..... | 1 |
| Rabies in man: | |
| Massachusetts..... | 1 |
| Septic sore throat: | |
| Massachusetts..... | 26 |
| North Carolina..... | 2 |
| Tetanus: | |
| Massachusetts..... | 1 |
| Trachoma: | |
| Massachusetts..... | 3 |
| Trichinosis: | |
| Massachusetts..... | 3 |
| Whooping cough: | |
| Massachusetts..... | 389 |
| North Carolina..... | 338 |

September, 1928

| | |
|---------------------|-----|
| Actinomyces: | |
| Illinois..... | 2 |
| Massachusetts..... | 1 |
| Anthrax: | |
| New York..... | 1 |
| Chicken pox: | |
| Alabama..... | 6 |
| California..... | 244 |
| Illinois..... | 152 |
| Iowa..... | 13 |
| Louisiana..... | 1 |
| Maryland..... | 12 |
| Massachusetts..... | 97 |
| Minnesota..... | 123 |
| Mississippi..... | 145 |
| Missouri..... | 27 |
| New York..... | 159 |
| Rhode Island..... | 1 |
| South Carolina..... | 30 |
| Tennessee..... | 16 |
| West Virginia..... | 9 |

September, 1928

| | |
|------------------------------|-------|
| Chicken pox—Continued. | Cases |
| Wisconsin..... | 141 |
| Wyoming..... | 17 |
| Dengue: | |
| Alabama..... | 52 |
| Louisiana..... | 1 |
| Mississippi..... | 312 |
| South Carolina..... | 59 |
| Dysentery: | |
| California (amebic)..... | 6 |
| California (bacillary)..... | 6 |
| Illinois..... | 32 |
| Louisiana..... | 5 |
| Maryland..... | 51 |
| Massachusetts..... | 8 |
| Mississippi (amebic)..... | 69 |
| Mississippi (bacillary)..... | 625 |
| New York..... | 34 |
| Tennessee..... | 35 |
| German measles: | |
| California..... | 42 |
| Illinois..... | 10 |
| Maryland..... | 3 |
| Massachusetts..... | 17 |
| New York..... | 34 |
| Wisconsin..... | 23 |
| Hookworm disease: | |
| Louisiana..... | 33 |
| Mississippi..... | 328 |
| South Carolina..... | 140 |
| Impetigo contagiosa: | |
| Maryland..... | 5 |
| Jaundice: | |
| California..... | 2 |
| Lead poisoning: | |
| Illinois..... | 4 |
| Leprosy: | |
| Illinois..... | 1 |
| Lethargic encephalitis: | |
| Alabama..... | 2 |
| California..... | 7 |
| Illinois..... | 8 |
| Iowa..... | 1 |
| Maryland..... | 3 |
| Massachusetts..... | 8 |
| Minnesota..... | 4 |
| New York..... | 20 |
| Rhode Island..... | 1 |
| South Carolina..... | 1 |
| Tennessee..... | 1 |
| Wisconsin..... | 3 |
| Mumps: | |
| Alabama..... | 8 |
| California..... | 315 |
| Illinois..... | 84 |
| Iowa..... | 36 |
| Maryland..... | 17 |
| Massachusetts..... | 74 |
| Mississippi..... | 149 |
| Missouri..... | 23 |
| New York..... | 196 |
| Rhode Island..... | 3 |
| South Carolina..... | 4 |
| Tennessee..... | 14 |
| Wisconsin..... | 86 |
| Wyoming..... | 12 |

September, 1928

| | Cases |
|-------------------------------|-------|
| Ophthalmia neonatorum: | |
| California..... | 1 |
| Illinois..... | 38 |
| Maryland..... | 1 |
| Massachusetts..... | 124 |
| Mississippi..... | 12 |
| New York..... | 5 |
| South Carolina..... | 4 |
| Tennessee..... | 3 |
| Wisconsin..... | 3 |
| Paratyphoid fever: | |
| California..... | 3 |
| Illinois..... | 4 |
| New York..... | 6 |
| South Carolina..... | 19 |
| Plague: | |
| California..... | 1 |
| Pebrular fever: | |
| Illinois..... | 6 |
| Mississippi..... | 39 |
| New York..... | 3 |
| Tennessee..... | 1 |
| Rabies in animals: | |
| California..... | 40 |
| Illinois..... | 19 |
| Maryland..... | 3 |
| Minnesota..... | 1 |
| Mississippi..... | 6 |
| Missouri..... | 2 |
| New York..... | 10 |
| Rhode Island..... | 7 |
| South Carolina..... | 18 |
| Rabies in man: | |
| Illinois..... | 2 |
| Massachusetts..... | 1 |
| Scabies: | |
| Maryland..... | 2 |
| Septic sore throat: | |
| Illinois..... | 5 |
| Maryland..... | 8 |
| Massachusetts..... | 18 |
| Missouri..... | 32 |
| New York..... | 14 |
| Tetanus: | |
| California..... | 10 |
| Illinois..... | 8 |
| Louisiana..... | 3 |
| Maryland..... | 2 |
| Massachusetts..... | 8 |
| Missouri..... | 2 |

September, 1928

| | Cases |
|---------------------------|-------|
| Tetanus—Continued. | |
| New York..... | 9 |
| Tennessee..... | 3 |
| Trachoma: | |
| California..... | 11 |
| Illinois..... | 6 |
| Massachusetts..... | 4 |
| Mississippi..... | 5 |
| Missouri..... | 14 |
| New York..... | 3 |
| Tennessee..... | 17 |
| Wisconsin..... | 1 |
| Trench mouth: | |
| Maryland..... | 2 |
| Trichinosis: | |
| California..... | 1 |
| Tularaemia: | |
| California..... | 12 |
| Minnesota..... | 2 |
| Typhus fever: | |
| Alabama..... | 1 |
| New York..... | 3 |
| South Carolina..... | 12 |
| Undulant fever: | |
| California..... | 4 |
| Iowa..... | 5 |
| Maryland..... | 1 |
| Minnesota..... | 2 |
| New York..... | 3 |
| Vincent's angina: | |
| Illinois..... | 1 |
| Maryland..... | 7 |
| New York..... | 61 |
| Whooping cough: | |
| Alabama..... | 56 |
| California..... | 625 |
| Illinois..... | 554 |
| Iowa..... | 46 |
| Louisiana..... | 21 |
| Maryland..... | 343 |
| Massachusetts..... | 264 |
| Minnesota..... | 125 |
| Mississippi..... | 497 |
| Missouri..... | 172 |
| New York..... | 1,070 |
| Rhode Island..... | 9 |
| South Carolina..... | 166 |
| Tennessee..... | 48 |
| West Virginia..... | 34 |
| Wisconsin..... | 451 |
| Wyoming..... | 9 |

RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of September, 1928, by departments of health of certain States to other State health departments

| State | Diphtheria | Malaria | Poliomyelitis | Undulant fever | Tuberculosis | Tularaemia | Typhoid fever |
|-------------------|------------|---------|---------------|----------------|--------------|------------|---------------|
| California..... | | 3 | | 1 | 2 | 6 | 1 |
| Illinois..... | | | | | 1 | | 3 |
| Minnesota..... | | | 1 | | 44 | | 1 |
| New Jersey..... | | | | | | | 1 |
| New York..... | 1 | | | | | | |
| Rhode Island..... | | | | | 1 | | |
| Washington..... | | | | | | | 1 |

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 99 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,450,000. The estimated population of the 93 cities reporting deaths is more than 30,755,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended October 13, 1928, and October 15, 1927

| | 1928 | 1927 | Estimated expectancy |
|--------------------------|-------|-------|----------------------|
| <i>Cases reported</i> | | | |
| Diphtheria: | | | |
| 43 States..... | 1,935 | 2,133 | |
| 99 cities..... | 700 | 850 | 1,108 |
| Measles: | | | |
| 42 States..... | 849 | 1,190 | |
| 99 cities..... | 194 | 296 | |
| Poliomyelitis: | | | |
| 44 States..... | 178 | 502 | |
| Scarlet fever: | | | |
| 43 States..... | 2,106 | 1,959 | |
| 99 cities..... | 693 | 560 | 699 |
| Smallpox: | | | |
| 43 States..... | 153 | 189 | |
| 99 cities..... | 7 | 36 | 20 |
| Typhoid fever: | | | |
| 43 States..... | 795 | 811 | |
| 99 cities..... | 131 | 114 | 153 |
| <i>Deaths reported</i> | | | |
| Influenza and pneumonia: | | | |
| 93 cities..... | 505 | 438 | |
| Smallpox: | | | |
| 93 cities..... | 0 | 0 | |

City reports for week ended October 13, 1928

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1919 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Population July 1, 1926, estimated | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---------------------------|------------------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
| | | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| NEW ENGLAND | | | | | | | | | |
| Maine: | | | | | | | | | |
| Portland..... | 76,400 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 2 |
| New Hampshire: | | | | | | | | | |
| Concord..... | ¹ 22,546 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manchester..... | 84,000 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 2 |
| Vermont: | | | | | | | | | |
| Barre..... | ¹ 10,008 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Burlington..... | ¹ 24,089 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| Massachusetts: | | | | | | | | | |
| Boston..... | 787,000 | 5 | 40 | 13 | 5 | 1 | 8 | 7 | 11 |
| Fall River..... | 131,000 | 0 | 4 | 6 | 1 | 1 | 10 | 1 | 1 |
| Springfield..... | 145,000 | 4 | 3 | 12 | 0 | 0 | 5 | 1 | 2 |
| Worcester..... | 193,000 | 2 | 6 | 4 | 0 | 0 | 1 | 1 | 2 |
| Rhode Island: | | | | | | | | | |
| Pawtucket..... | 71,000 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Providence..... | 275,000 | 0 | 7 | 11 | 0 | 0 | 4 | 0 | 7 |
| Connecticut: | | | | | | | | | |
| Bridgeport..... | (²) | 1 | 7 | 4 | 1 | 1 | 2 | 0 | 1 |
| Hartford..... | 164,000 | | 5 | | | | | | |
| New Haven..... | 182,000 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 1 |
| MIDDLE ATLANTIC | | | | | | | | | |
| New York: | | | | | | | | | |
| Buffalo..... | 544,000 | 4 | 15 | 8 | 1 | 0 | 1 | 3 | 9 |
| New York..... | 5,924,000 | 34 | 129 | 89 | 10 | 7 | 20 | 11 | 122 |
| Rochester..... | 321,000 | 16 | 9 | 8 | | 0 | 23 | 2 | 2 |
| Syracuse..... | 185,000 | 4 | 6 | 0 | | 0 | 2 | 0 | 5 |
| New Jersey: | | | | | | | | | |
| Camden..... | 131,000 | 1 | 7 | 3 | 1 | 1 | 0 | 1 | 3 |
| Newark..... | 459,000 | 12 | 11 | 20 | 8 | 1 | 3 | 4 | 7 |
| Trenton..... | 134,000 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 2 |
| Pennsylvania: | | | | | | | | | |
| Philadelphia..... | 2,008,000 | 29 | 57 | 30 | 0 | 0 | 2 | 3 | 26 |
| Pittsburgh..... | 637,000 | 16 | 29 | 12 | 0 | 0 | 3 | 4 | 16 |
| Reading..... | 114,000 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| EAST NORTH CENTRAL | | | | | | | | | |
| Ohio: | | | | | | | | | |
| Cincinnati..... | 411,000 | 6 | 12 | 9 | 0 | 1 | 1 | 0 | 9 |
| Cleveland..... | 960,000 | 25 | 55 | 16 | 13 | 1 | 7 | 3 | 7 |
| Columbus..... | 285,000 | 2 | 9 | 2 | 1 | 1 | 2 | 3 | 0 |
| Toledo..... | 295,000 | 20 | 13 | 1 | 1 | 1 | 1 | 1 | 3 |
| Indiana: | | | | | | | | | |
| Fort Wayne..... | 99,900 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 2 |
| Indianapolis..... | 367,000 | 16 | 14 | 9 | 0 | 0 | 0 | 1 | 7 |
| South Bend..... | 81,700 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| Terre Haute..... | 71,900 | 0 | 2 | 4 | 0 | 1 | 1 | 0 | 1 |
| Illinois: | | | | | | | | | |
| Chicago..... | 3,048,000 | 107 | 70 | 87 | 4 | 3 | 23 | 8 | 43 |
| Springfield..... | 64,700 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| Michigan: | | | | | | | | | |
| Detroit..... | ¹ 1,242,044 | 51 | 66 | 33 | 4 | 1 | 6 | 8 | 18 |
| Flint..... | 136,000 | 12 | 10 | 0 | 0 | 0 | 0 | 1 | 2 |
| Grand Rapids..... | 156,000 | 13 | 6 | 2 | 0 | 0 | 0 | 3 | 3 |
| Wisconsin: | | | | | | | | | |
| Kenosha..... | 52,700 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Milwaukee..... | 517,000 | 84 | 20 | 4 | 1 | 1 | 6 | 8 | 8 |
| Racine..... | 69,400 | 5 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| Superior..... | 139,671 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| WEST NORTH CENTRAL | | | | | | | | | |
| Minnesota: | | | | | | | | | |
| Duluth..... | 113,000 | 3 | 3 | 0 | 0 | 0 | 1 | 1 | 0 |
| Minneapolis..... | 434,000 | 44 | 30 | 8 | 0 | 0 | 11 | 7 | 2 |
| St. Paul..... | 248,000 | 32 | 18 | 1 | 0 | 1 | 0 | 7 | 10 |

¹ Estimated, July 1, 1925.² No estimate made.

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Population July 1, 1926, estimated | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|------------------------------|------------------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
| | | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| WEST NORTH CENTRAL—continued | | | | | | | | | |
| Iowa: | | | | | | | | | |
| Davenport..... | 152,469 | 5 | 1 | 0 | 0 | — | 0 | 0 | — |
| Des Moines..... | 146,000 | 0 | 7 | 2 | 0 | — | 0 | 0 | — |
| Sioux City..... | 78,000 | 3 | 3 | 1 | 0 | — | 0 | 1 | — |
| Waterloo..... | 36,900 | 3 | 1 | 2 | 0 | — | 0 | 15 | — |
| Missouri: | | | | | | | | | |
| Kansas City..... | 375,000 | 12 | 9 | 6 | 0 | 0 | 4 | 3 | 4 |
| St. Joseph..... | 78,400 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| St. Louis..... | 830,000 | 22 | 43 | 20 | 1 | 0 | 4 | 2 | — |
| North Dakota: | | | | | | | | | |
| Fargo..... | 126,403 | — | 0 | — | — | — | — | — | — |
| Grand Forks..... | 114,811 | 0 | 0 | 0 | 0 | — | 0 | 0 | — |
| South Dakota: | | | | | | | | | |
| Aberdeen..... | 115,036 | 0 | 0 | 0 | 0 | — | 0 | 0 | — |
| Sioux Falls..... | 130,127 | 0 | 1 | 0 | 0 | — | 0 | 0 | — |
| Nebraska: | | | | | | | | | |
| Lincoln..... | 62,000 | 5 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| Omaha..... | 216,000 | 1 | 12 | 22 | 0 | 0 | 3 | 0 | 3 |
| Kansas: | | | | | | | | | |
| Topeka..... | 56,500 | 0 | 3 | 1 | 0 | 0 | 2 | 0 | 0 |
| Wichita..... | 92,500 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 2 |
| SOUTH ATLANTIC | | | | | | | | | |
| Delaware: | | | | | | | | | |
| Wilmington..... | 124,000 | 0 | 3 | 0 | 0 | 0 | 10 | 0 | 4 |
| Maryland: | | | | | | | | | |
| Baltimore..... | 808,000 | 6 | 30 | 13 | 3 | 0 | 2 | 11 | 16 |
| Cumberland..... | 133,741 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Frederick..... | 112,035 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| District of Columbia: | | | | | | | | | |
| Washington..... | 528,000 | 3 | 15 | 26 | 0 | 0 | 4 | 0 | 5 |
| Virginia: | | | | | | | | | |
| Lynchburg..... | 133,463 | 1 | 3 | 4 | 0 | 0 | 0 | 4 | 1 |
| Norfolk..... | 174,000 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 1 |
| Richmond..... | 189,000 | 2 | 24 | 23 | 0 | 0 | 1 | 1 | 8 |
| Roanoke..... | 61,900 | 1 | 7 | 11 | 0 | 0 | 1 | 0 | 0 |
| West Virginia: | | | | | | | | | |
| Charleston..... | 53,700 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| Wheeling..... | 156,208 | 1 | 2 | 1 | 0 | 0 | 2 | 2 | 2 |
| North Carolina: | | | | | | | | | |
| Raleigh..... | 130,371 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 0 |
| Wilmington..... | 37,700 | 5 | 1 | 4 | 0 | 2 | 0 | 0 | 2 |
| Winston-Salem..... | 71,800 | 0 | 4 | 6 | 0 | 0 | 1 | 0 | 2 |
| South Carolina: | | | | | | | | | |
| Charleston..... | 74,100 | 0 | 1 | 7 | 16 | 0 | 0 | 0 | 0 |
| Columbia..... | 41,800 | 1 | 2 | 1 | 0 | 0 | 0 | 10 | 0 |
| Greenville..... | 127,311 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 |
| Georgia: | | | | | | | | | |
| Atlanta..... | (?) | 0 | 11 | 7 | 27 | 0 | 0 | 1 | 6 |
| Brunswick..... | 116,809 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Savannah..... | 94,900 | 0 | 3 | 2 | 4 | 0 | 0 | 0 | 1 |
| Florida: | | | | | | | | | |
| Miami..... | 131,286 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 |
| St. Petersburg..... | 47,629 | 0 | 0 | — | — | 0 | — | — | 0 |
| Tampa..... | 102,000 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| EAST SOUTH CENTRAL | | | | | | | | | |
| Kentucky: | | | | | | | | | |
| Covington..... | 58,500 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| Louisville..... | 311,000 | 0 | 9 | 5 | 0 | 0 | 1 | 0 | 8 |
| Tennessee: | | | | | | | | | |
| Memphis..... | 177,000 | 3 | 9 | 5 | 0 | 2 | 1 | 1 | 3 |
| Nashville..... | 137,000 | 0 | 6 | 10 | 0 | 0 | 0 | 0 | 2 |
| Alabama: | | | | | | | | | |
| Birmingham..... | 211,000 | 0 | 8 | 7 | 0 | 0 | 0 | 0 | 5 |
| Mobile..... | 66,800 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| Montgomery..... | 47,000 | 0 | 3 | 8 | 1 | — | 0 | 0 | — |

¹ Estimated, July 1, 1925.² No estimate made.³ Special census.

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Population July 1, 1926, estimated | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---------------------------|------------------------------------|-----------------------------|-----------------------------|----------------|----------------|-----------------|-------------------------|-----------------------|----------------------------|
| | | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| WEST SOUTH CENTRAL | | | | | | | | | |
| Arkansas: | | | | | | | | | |
| Fort Smith..... | ¹ 31,643 | 0 | 2 | 2 | 0 | — | 0 | 2 | — |
| Little Rock..... | 75,900 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 1 |
| Louisiana: | | | | | | | | | |
| New Orleans..... | 419,000 | 0 | 9 | 14 | 7 | 6 | 0 | 0 | 11 |
| Shreveport..... | 59,500 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Oklahoma: | | | | | | | | | |
| Tulsa..... | 133,000 | 1 | 4 | 14 | 0 | — | 1 | 1 | — |
| Texas: | | | | | | | | | |
| Dallas..... | 203,000 | 1 | 13 | 18 | 0 | 0 | 0 | 0 | 1 |
| Fort Worth..... | 159,000 | 0 | 3 | 2 | 1 | 0 | 0 | 0 | 1 |
| Galveston..... | 49,100 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 |
| Houston..... | ¹ 164,954 | 0 | 5 | 8 | 0 | 0 | 0 | 0 | 1 |
| San Antonio..... | 205,000 | 0 | 2 | 4 | 0 | 1 | 0 | 0 | 3 |
| MOUNTAIN | | | | | | | | | |
| Montana: | | | | | | | | | |
| Billings..... | ¹ 17,971 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Great Falls..... | ¹ 29,883 | 11 | 0 | 0 | 0 | 0 | 4 | 0 | 3 |
| Helena..... | ¹ 12,037 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Missoula..... | ¹ 12,668 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho: | | | | | | | | | |
| Boise..... | ¹ 23,042 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Colorado: | | | | | | | | | |
| Denver..... | 285,000 | 7 | 17 | 4 | — | 1 | 2 | 5 | 7 |
| Pueblo..... | 43,900 | 0 | 3 | 1 | 0 | 0 | 0 | 3 | 0 |
| New Mexico: | | | | | | | | | |
| Albuquerque..... | ¹ 21,000 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Utah: | | | | | | | | | |
| Salt Lake City..... | 133,000 | 25 | 4 | 0 | 0 | 0 | 0 | 3 | 1 |
| Nevada: | | | | | | | | | |
| Reno..... | ¹ 12,665 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PACIFIC | | | | | | | | | |
| Washington: | | | | | | | | | |
| Seattle..... | ⁽²⁾ | 11 | 7 | 1 | 0 | — | 0 | 2 | — |
| Spokane..... | 109,000 | 25 | 3 | 1 | 0 | — | 4 | 0 | — |
| Tacoma..... | 106,000 | 2 | 4 | 0 | 0 | 0 | 0 | 14 | 0 |
| Oregon: | | | | | | | | | |
| Portland..... | ¹ 282,383 | 14 | 10 | 8 | 0 | 0 | 1 | 0 | 4 |
| California: | | | | | | | | | |
| Los Angeles..... | ⁽²⁾ | 10 | 38 | 18 | 10 | 1 | 2 | 6 | 14 |
| Sacramento..... | 73,400 | 0 | 2 | 1 | 0 | 0 | 0 | 7 | 0 |
| San Francisco..... | 567,000 | 6 | 16 | 10 | 3 | 4 | 1 | 3 | 2 |

¹ Estimated July 1, 1925.² No estimate made.

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuber- culosis, deaths re- ported | Typhoid fever | | | Whoop- ing cough, cases re- ported | Deaths, all causes |
|--|---|-------------------------|---|-------------------------|-------------------------|---|---|------------------------|-------------------------|---|--------------------------|
| | Cases, esti- mated expect- ancy | Cases, re- ported | Cases, esti- mated expect- ancy | Cases, re- ported | Deaths re- ported | | Cases, esti- mated expect- ancy | Cases re- ported | Deaths re- ported | | |
| NEW ENGLAND | | | | | | | | | | | |
| Maine: | | | | | | | | | | | |
| Portland..... | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 17 |
| New Hampshire: | | | | | | | | | | | |
| Concord..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| Manchester.... | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Vermont: | | | | | | | | | | | |
| Barre..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| Burlington.... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Massachusetts: | | | | | | | | | | | |
| Boston..... | 28 | 27 | 0 | 0 | 0 | 10 | 3 | 3 | 0 | 6 | 218 |
| Fall River.... | 2 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 2 | 19 |
| Springfield.... | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 30 |
| Worcester..... | 7 | 7 | 0 | 0 | 0 | 4 | 1 | 1 | 0 | 3 | 75 |
| Rhode Island: | | | | | | | | | | | |
| Pawtucket..... | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Providence.... | 3 | 10 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 52 |
| Connecticut: | | | | | | | | | | | |
| Bridgeport.... | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 21 |
| Hartford..... | 3 | | 0 | | | 1 | | | | | |
| New Haven.... | 4 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 33 |
| MIDDLE ATLANTIC | | | | | | | | | | | |
| New York: | | | | | | | | | | | |
| Buffalo..... | 13 | 7 | 0 | 0 | 0 | 10 | 2 | 2 | 0 | 25 | 135 |
| New York..... | 56 | 46 | 0 | 0 | 0 | 92 | 28 | 33 | 5 | 53 | 1,270 |
| Rochester..... | 5 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 9 | 60 |
| Syracuse..... | 5 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 11 | 48 |
| New Jersey: | | | | | | | | | | | |
| Camden..... | 3 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 14 | 28 |
| Newark..... | 7 | 3 | 0 | 0 | 0 | 10 | 2 | 0 | 0 | 30 | 116 |
| Trenton..... | 0 | 2 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 0 | 37 |
| Pennsylvania: | | | | | | | | | | | |
| Philadelphia... Pittsburgh.... Reading..... | 42 29 0 | 23 25 4 | 0 0 0 | 0 0 0 | 0 0 0 | 32 12 0 | 10 2 1 | 1 0 2 | 1 1 1 | 53 27 16 | 426 157 34 |
| EAST NORTH CENTRAL | | | | | | | | | | | |
| Ohio: | | | | | | | | | | | |
| Cincinnati.... | 10 | 17 | 0 | 1 | 0 | 9 | 1 | 2 | 1 | 12 | 131 |
| Cleveland..... | 22 | 8 | 0 | 0 | 0 | 15 | 3 | 4 | 0 | 27 | 192 |
| Columbus..... | 7 | 6 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 68 |
| Toledo..... | 9 | 4 | 0 | 0 | 0 | 3 | 2 | 3 | 0 | 9 | 63 |
| Indiana: | | | | | | | | | | | |
| Fort Wayne.... | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 31 |
| Indianapolis... South Bend.... Terre Haute.... | 7 2 2 | 20 1 0 | 1 0 0 | 0 0 0 | 0 0 0 | 4 0 0 | 2 0 0 | 4 0 0 | 1 0 0 | 4 2 0 | 94 9 25 |
| Illinois: | | | | | | | | | | | |
| Chicago..... | 63 | 61 | 0 | 0 | 0 | 47 | 7 | 4 | 1 | 38 | 631 |
| Springfield.... | 2 | 6 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 27 |
| Michigan: | | | | | | | | | | | |
| Detroit..... | 49 | 70 | 1 | 1 | 0 | 15 | 5 | 2 | 0 | 94 | 250 |
| Flint..... | 10 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 38 |
| Grand Rapids... Wisconsin: | 6 1 | 2 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 11 0 | 35 9 |
| Kenosha..... | 16 | 33 | 0 | 0 | 0 | 5 | 1 | 1 | 0 | 62 | 113 |
| Milwaukee..... | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 6 | 18 |
| Racine..... | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 |
| Superior..... | | | | | | | | | | | |
| WEST NORTH CENTRAL | | | | | | | | | | | |
| Minnesota: | | | | | | | | | | | |
| Duluth..... | 6 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 24 |
| Minneapolis... St. Paul..... | 34 14 | 12 7 | 1 3 | 0 0 | 0 0 | 1 5 | 1 1 | 0 0 | 0 0 | 12 8 | 83 63 |

1 Nonresident

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuber- culosis, deaths re- ported | Typhoid fever | | | Whoop- ing cough, cases re- ported | Deaths, all causes |
|------------------------------|---|-------------------------|---|-------------------------|-------------------------|---|---|------------------------|-------------------------|---|--------------------------|
| | Cases, esti- mated expect- ancy | Cases, re- ported | Cases, esti- mated expect- ancy | Cases, re- ported | Deaths re- ported | | Cases, esti- mated expect- ancy | Cases re- ported | Deaths re- ported | | |
| WEST NORTH CENTRAL—continued | | | | | | | | | | | |
| Iowa: | | | | | | | | | | | |
| Davenport..... | 1 | 0 | 0 | 0 | ----- | ----- | 0 | 0 | ----- | 0 | ----- |
| Des Moines..... | 7 | 13 | 0 | 0 | 2 | ----- | 0 | 0 | ----- | 0 | 37 |
| Sioux City..... | 2 | 2 | 0 | 0 | ----- | ----- | 0 | 0 | ----- | 0 | ----- |
| Waterloo..... | 1 | 22 | 0 | 0 | ----- | ----- | 1 | 0 | ----- | 2 | 44 |
| Missouri: | | | | | | | | | | | |
| Kansas City..... | 10 | 14 | 0 | 0 | 0 | 8 | 2 | 4 | 0 | 7 | 100 |
| St. Joseph..... | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| St. Louis..... | 23 | 15 | 1 | 0 | 0 | 5 | 5 | 4 | 0 | 14 | 212 |
| North Dakota: | | | | | | | | | | | |
| Fargo..... | 2 | ----- | 0 | ----- | ----- | ----- | 0 | ----- | ----- | ----- | ----- |
| Grand Forks..... | 1 | 0 | 0 | 0 | ----- | ----- | 0 | 0 | ----- | 0 | ----- |
| South Dakota: | | | | | | | | | | | |
| Aberdeen..... | 1 | 0 | 0 | 0 | ----- | ----- | 0 | 0 | ----- | 0 | ----- |
| Sioux Falls..... | 2 | 4 | 0 | 0 | ----- | ----- | 0 | 0 | ----- | 0 | 14 |
| Nebraska: | | | | | | | | | | | |
| Lincoln..... | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Omaha..... | 4 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 59 |
| Kansas: | | | | | | | | | | | |
| Topeka..... | 3 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Wichita..... | 3 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 3 | 31 |
| SOUTH ATLANTIC | | | | | | | | | | | |
| Delaware: | | | | | | | | | | | |
| Wilmington..... | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 27 |
| Maryland: | | | | | | | | | | | |
| Baltimore..... | 10 | 10 | 0 | 0 | 0 | 15 | 9 | 10 | 3 | 63 | 185 |
| Cumberland..... | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Frederick..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| District of Colum- bia: | | | | | | | | | | | |
| Washington..... | 12 | 12 | 1 | 0 | 0 | 5 | 3 | 1 | 0 | 6 | 104 |
| Virginia: | | | | | | | | | | | |
| Lynchburg..... | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 1 | 6 |
| Norfolk..... | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | ----- |
| Richmond..... | 8 | 5 | 0 | 0 | 0 | 4 | 1 | 2 | 1 | 2 | 60 |
| Roanoke..... | 3 | 12 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 13 |
| West Virginia: | | | | | | | | | | | |
| Charleston..... | 2 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 18 |
| Wheeling..... | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| North Carolina: | | | | | | | | | | | |
| Raleigh..... | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 8 |
| Wilmington..... | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 12 |
| Winston-Salem..... | 3 | 3 | 1 | 0 | 0 | 2 | 2 | 2 | 1 | 7 | 19 |
| South Carolina: | | | | | | | | | | | |
| Charleston..... | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 22 |
| Columbia..... | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 19 |
| Greenville..... | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 5 |
| Georgia: | | | | | | | | | | | |
| Atlanta..... | 6 | 12 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 6 | 53 |
| Brunswick..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| Savannah..... | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 31 |
| Florida: | | | | | | | | | | | |
| Miami..... | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 23 |
| St. Petersburg..... | 0 | ----- | 0 | ----- | 0 | 0 | 0 | 0 | 0 | ----- | 6 |
| Tampa..... | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ----- | ----- |
| EAST SOUTH CENTRAL | | | | | | | | | | | |
| Kentucky: | | | | | | | | | | | |
| Covington..... | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 16 |
| Louisville..... | 4 | 25 | 0 | 0 | 0 | 4 | 3 | 2 | 0 | 2 | 74 |
| Tennessee: | | | | | | | | | | | |
| Memphis..... | 5 | 8 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 60 |
| Nashville..... | 3 | 1 | 0 | 0 | 0 | 0 | 3 | 6 | 1 | 4 | 41 |
| Alabama: | | | | | | | | | | | |
| Birmingham..... | 5 | 8 | 0 | 0 | 0 | 4 | 3 | 1 | 1 | 5 | 45 |
| Mobile..... | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 21 |
| Montgomery..... | 0 | 1 | 0 | 0 | ----- | ----- | 0 | 0 | ----- | 0 | ----- |

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuber- culosis, deaths re- ported | Typhoid fever | | | Whoop- ing cough, cases re- ported | Deaths, all causes |
|------------------------------|---|-------------------------|---|-------------------------|-------------------------|---|---|------------------------|-------------------------|---|--------------------------|
| | Cases, esti- mated expect- ancy | Cases, re- ported | Cases, esti- mated expect- ancy | Cases, re- ported | Deaths re- ported | | Cases, esti- mated expect- ancy | Cases re- ported | Deaths re- ported | | |
| WEST SOUTH CENTRAL | | | | | | | | | | | |
| Arkansas: | | | | | | | | | | | |
| Fort Smith..... | 1 | 2 | 0 | 0 | | | 0 | 0 | | 0 | |
| Little Rock..... | 3 | 5 | 0 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | |
| Louisiana: | | | | | | | | | | | |
| New Orleans..... | 4 | 3 | 0 | 0 | 0 | 14 | 3 | 2 | 0 | 0 | 141 |
| Shreveport..... | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 26 |
| Oklahoma: | | | | | | | | | | | |
| Tulsa..... | 2 | 3 | 0 | 0 | | | 1 | 1 | | 1 | |
| Texas: | | | | | | | | | | | |
| Dallas..... | 5 | 7 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 3 | 42 |
| Fort Worth..... | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 31 |
| Galveston..... | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 13 |
| Houston..... | 0 | 3 | 0 | 0 | 0 | 7 | 0 | 1 | 0 | 0 | 61 |
| San Antonio..... | 1 | 3 | 0 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 55 |
| MOUNTAIN | | | | | | | | | | | |
| Montana: | | | | | | | | | | | |
| Billings..... | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 13 |
| Great Falls..... | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Helena..... | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 6 |
| Missoula..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Idaho: | | | | | | | | | | | |
| Boise..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Colorado: | | | | | | | | | | | |
| Denver..... | 7 | 6 | 1 | 0 | 0 | 7 | 2 | 1 | 0 | 4 | 77 |
| Pueblo..... | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 12 |
| New Mexico: | | | | | | | | | | | |
| Albuquerque..... | 1 | 2 | 0 | 0 | 0 | 5 | 1 | 2 | 0 | 0 | 16 |
| Utah: | | | | | | | | | | | |
| Salt Lake City..... | 2 | 2 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 3 | 40 |
| Nevada: | | | | | | | | | | | |
| Reno..... | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| PACIFIC | | | | | | | | | | | |
| Washington: | | | | | | | | | | | |
| Seattle..... | 7 | 0 | 1 | 0 | | | 2 | 4 | | 5 | |
| Spokane..... | 6 | 9 | 1 | 0 | | | 0 | 1 | | 0 | |
| Tacoma..... | 2 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 3 | 19 |
| Oregon: | | | | | | | | | | | |
| Portland..... | 8 | 2 | 4 | 12 | 0 | 2 | 1 | 0 | 0 | 0 | 52 |
| California: | | | | | | | | | | | |
| Los Angeles..... | 13 | 12 | 2 | 0 | 0 | 16 | 3 | 1 | 0 | 41 | 183 |
| Sacramento..... | 2 | 9 | 0 | 0 | 0 | 5 | 1 | 1 | 0 | 0 | 28 |
| San Francisco..... | 7 | 8 | 0 | 1 | 0 | 8 | 1 | 3 | 0 | 7 | |

| Division, State, and city | Meningococcus meningitis | | Lethargic encephalitis | | Pellagra | | Poliomyelitis (infantile paralysis) | | |
|-----------------------------|--------------------------|--------|------------------------|--------|----------|--------|-------------------------------------|-------|--------|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases, estimated expectancy | Cases | Deaths |
| NEW ENGLAND | | | | | | | | | |
| Massachusetts: | | | | | | | | | |
| Boston..... | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| Springfield..... | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Worcester..... | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connecticut: | | | | | | | | | |
| New Haven..... | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| MIDDLE ATLANTIC | | | | | | | | | |
| New York: | | | | | | | | | |
| New York ¹ | 14 | 9 | 4 | 1 | 0 | 0 | 15 | 7 | 1 |
| Rochester..... | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 |
| New Jersey: | | | | | | | | | |
| Newark..... | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

¹ Typhus fever; 5 cases; 1 case at New York, N. Y., 1 case at Milwaukee, Wis., and 3 cases at Savannah, Ga.

City reports for week ended October 13, 1928—Continued

| Division, State, and city | Meningococcus meningitis | | Lethargic encephalitis | | Pellagra | | Poliomyelitis (infantile paralysis) | | |
|---------------------------------------|--------------------------|--------|------------------------|--------|----------|--------|-------------------------------------|-------|--------|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases, estimated expectancy | Cases | Deaths |
| MIDDLE ATLANTIC—continued | | | | | | | | | |
| Pennsylvania: | | | | | | | | | |
| Philadelphia..... | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Pittsburgh..... | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EAST NORTH CENTRAL¹ | | | | | | | | | |
| Ohio: | | | | | | | | | |
| Cleveland..... | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 |
| Columbus..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Toledo..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Illinois: | | | | | | | | | |
| Chicago..... | 5 | 3 | 0 | 0 | 2 | 2 | 4 | 0 | 0 |
| Michigan: | | | | | | | | | |
| Detroit..... | 2 | 6 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| Wisconsin: | | | | | | | | | |
| Milwaukee ² | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| WEST NORTH CENTRAL | | | | | | | | | |
| Minnesota: | | | | | | | | | |
| Duluth..... | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minneapolis..... | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| St. Paul..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Missouri: | | | | | | | | | |
| Kansas City..... | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| St. Louis..... | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska: | | | | | | | | | |
| Lincoln..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| SOUTH ATLANTIC | | | | | | | | | |
| Maryland: | | | | | | | | | |
| Baltimore..... | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 1 |
| Cumberland..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| West Virginia: | | | | | | | | | |
| Charleston..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Wheeling..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| North Carolina: | | | | | | | | | |
| Winston-Salem..... | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| South Carolina: | | | | | | | | | |
| Charleston ³ | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Columbia..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Georgia: ⁴ | | | | | | | | | |
| Atlanta..... | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Florida: | | | | | | | | | |
| Miami..... | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| EAST SOUTH CENTRAL | | | | | | | | | |
| Tennessee: | | | | | | | | | |
| Memphis..... | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Nashville..... | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| WEST SOUTH CENTRAL | | | | | | | | | |
| Louisiana: | | | | | | | | | |
| New Orleans..... | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Shreveport..... | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| MOUNTAIN | | | | | | | | | |
| Montana: | | | | | | | | | |
| Billings ⁴ | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Helena..... | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Colorado: | | | | | | | | | |
| Denver..... | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Utah: | | | | | | | | | |
| Salt Lake City..... | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PACIFIC | | | | | | | | | |
| Washington: | | | | | | | | | |
| Seattle..... | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 0 |
| Tacoma..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Oregon: | | | | | | | | | |
| Portland..... | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 |
| California: | | | | | | | | | |
| Los Angeles..... | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Sacramento..... | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

¹ Rabies (in man): 1 death at Terre Haute, Ind.² Typhus fever: 5 cases; 1 case at New York, N. Y., 1 case at Milwaukee, Wis., and 3 cases at Savannah, Ga.³ Dengue: 6 cases at Charleston, S. C.⁴ Tularemia: 1 case at Billings, Mont.

The following table gives the rates per 100,000 population for 101 cities for the 5-week period ended October 13, 1928, compared with those for a like period ended October 15, 1927. The population figures used in computing the rates are approximate estimates as of July 1, 1928 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,657,000 in 1928 and 31,050,000 in 1927. The 95 cities reporting deaths had nearly 30,961,000 estimated population in 1928 and nearly 30,370,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, September 9 to October 13, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927¹

DIPHTHERIA CASE RATES.

| | Week ended— | | | | | | | | | |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| | Sept. 15, 1928 | Sept. 17, 1927 | Sept. 22, 1928 | Sept. 24, 1927 | Sept. 29, 1928 | Oct. 1, 1927 | Oct. 6, 1928 | Oct. 8, 1927 | Oct. 13, 1928 | Oct. 15, 1927 |
| 101 cities..... | ² 74 | 101 | 79 | 103 | 89 | 129 | 99 | 143 | ³ 116 | 144 |
| New England..... | 87 | 53 | 67 | 91 | 62 | 109 | 103 | 133 | ⁴ 127 | 128 |
| Middle Atlantic..... | 57 | 105 | 62 | 95 | 72 | 123 | 83 | 129 | 83 | 123 |
| East North Central..... | 67 | 82 | 92 | 105 | 97 | 129 | 92 | 157 | 111 | 138 |
| West North Central..... | 97 | 125 | 92 | 87 | 76 | 123 | 127 | 144 | ⁴ 138 | 119 |
| South Atlantic..... | ² 103 | 112 | 86 | 105 | 135 | 164 | 135 | 170 | 198 | 202 |
| East South Central..... | 125 | 117 | 160 | 81 | 155 | 66 | 130 | 152 | 190 | 157 |
| West South Central..... | 140 | 136 | 92 | 203 | 108 | 194 | 172 | 194 | 208 | 252 |
| Mountain..... | 35 | 224 | 62 | 233 | 106 | 188 | 106 | 126 | 44 | 197 |
| Pacific..... | 49 | 91 | 54 | 76 | 72 | 120 | 64 | 99 | 79 | 154 |

MEASLES CASE RATES

| | ² 18 | 20 | 18 | 27 | 18 | 25 | 27 | 40 | ³ 32 | 50 |
|-------------------------|-----------------|----|----|----|----|----|----|-----|-----------------|-----|
| 101 cities..... | ² 18 | 20 | 18 | 27 | 18 | 25 | 27 | 40 | ³ 32 | 50 |
| New England..... | 39 | 30 | 48 | 40 | 55 | 53 | 85 | 119 | ⁴ 75 | 133 |
| Middle Atlantic..... | 15 | 14 | 15 | 30 | 10 | 33 | 18 | 56 | 27 | 53 |
| East North Central..... | 24 | 18 | 20 | 18 | 22 | 13 | 23 | 11 | 31 | 17 |
| West North Central..... | 14 | 28 | 18 | 20 | 14 | 6 | 43 | 12 | ⁴ 49 | 14 |
| South Atlantic..... | ² 11 | 14 | 16 | 36 | 14 | 29 | 21 | 31 | 37 | 69 |
| East South Central..... | 10 | 10 | 5 | 15 | 0 | 20 | 5 | 56 | 10 | 127 |
| West South Central..... | 0 | 17 | 4 | 0 | 8 | 4 | 4 | 8 | 0 | 54 |
| Mountain..... | 44 | 45 | 0 | 45 | 9 | 0 | 44 | 27 | 53 | 18 |
| Pacific..... | 13 | 44 | 10 | 52 | 41 | 47 | 41 | 44 | 18 | 57 |

SCARLET FEVER CASE RATES

| | ² 58 | 69 | 63 | 67 | 76 | 83 | 99 | 103 | ³ 115 | 96 |
|-------------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|------------------|-----|
| 101 cities..... | ² 58 | 69 | 63 | 67 | 76 | 83 | 99 | 103 | ³ 115 | 96 |
| New England..... | 78 | 102 | 101 | 123 | 83 | 102 | 90 | 140 | ⁴ 142 | 130 |
| Middle Atlantic..... | 28 | 46 | 24 | 42 | 38 | 59 | 42 | 100 | 57 | 63 |
| East North Central..... | 88 | 89 | 91 | 69 | 100 | 101 | 132 | 102 | 153 | 108 |
| West North Central..... | 68 | 87 | 103 | 59 | 115 | 79 | 181 | 107 | ⁴ 175 | 174 |
| South Atlantic..... | ² 52 | 78 | 68 | 106 | 74 | 106 | 112 | 123 | 135 | 90 |
| East South Central..... | 100 | 46 | 65 | 46 | 150 | 117 | 150 | 66 | 234 | 81 |
| West South Central..... | 44 | 41 | 28 | 50 | 84 | 103 | 148 | 66 | 96 | 87 |
| Mountain..... | 27 | 99 | 53 | 152 | 62 | 36 | 18 | 126 | 80 | 108 |
| Pacific..... | 64 | 65 | 77 | 71 | 87 | 76 | 112 | 76 | 97 | 97 |

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1928 and 1927, respectively.

² Lynchburg, Va., not included.

³ Hartford, Conn., and Fargo, N. Dak., not included.

⁴ Hartford, Conn., not included.

⁵ Fargo, N. Dak., not included.

Summary of weekly reports from cities, September 9 to October 13, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

SMALLPOX CASE RATES

| | Week ended— | | | | | | | | | |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| | Sept. 15, 1928 | Sept. 17, 1927 | Sept. 22, 1928 | Sept. 24, 1927 | Sept. 29, 1928 | Oct. 1, 1927 | Oct. 6, 1928 | Oct. 8, 1927 | Oct. 13, 1928 | Oct. 15, 1927 |
| 101 cities..... | ¹ 1 | 5 | 1 | 6 | 2 | 4 | 3 | 5 | ¹ 1 | 6 |
| New England..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ¹ 0 | 0 |
| Middle Atlantic..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| East North Central..... | 0 | 0 | 1 | 1 | 1 | 1 | 5 | 1 | ¹ 2 | 5 |
| West North Central..... | 4 | 22 | 4 | 8 | 2 | 12 | 2 | 14 | ¹ 0 | 26 |
| South Atlantic..... | ¹ 0 | 4 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 2 |
| East South Central..... | 0 | 0 | 0 | 10 | 5 | 0 | 0 | 0 | 0 | 0 |
| West South Central..... | 4 | 4 | 4 | 0 | 4 | 8 | 0 | 4 | 4 | 4 |
| Mountain..... | 9 | 27 | 0 | 161 | 9 | 54 | 9 | 54 | 9 | 72 |
| Pacific..... | 3 | 37 | 5 | 21 | 15 | 24 | 18 | 31 | 5 | 16 |

TYPHOID FEVER CASE RATES

| 101 cities..... | ¹ 28 | 33 | 27 | 28 | 22 | 19 | 25 | 25 | ¹ 22 | 19 |
|-------------------------|-----------------|-----|----|----|----|-----|-----|----|-----------------|----|
| New England..... | 14 | 47 | 21 | 63 | 9 | 12 | 16 | 23 | ¹ 17 | 16 |
| Middle Atlantic..... | 29 | 37 | 23 | 24 | 26 | 18 | 25 | 21 | 20 | 16 |
| East North Central..... | 14 | 16 | 16 | 10 | 14 | 8 | 13 | 17 | ¹ 11 | 18 |
| West North Central..... | 25 | 24 | 31 | 14 | 27 | 20 | 12 | 28 | ¹ 16 | 22 |
| South Atlantic..... | ¹ 40 | 31 | 30 | 45 | 25 | 20 | 30 | 47 | 35 | 27 |
| East South Central..... | 100 | 152 | 95 | 86 | 55 | 117 | 50 | 20 | 55 | 30 |
| West South Central..... | 28 | 37 | 68 | 70 | 40 | 17 | 52 | 70 | 28 | 29 |
| Mountain..... | 18 | 36 | 27 | 36 | 18 | 36 | 124 | 54 | 88 | 63 |
| Pacific..... | 38 | 16 | 18 | 13 | 13 | 18 | 28 | 8 | 26 | 8 |

¹ Lynchburg, Va., not included.

² Hartford, Conn., and Fargo, N. Dak., not included.

⁴ Hartford, Conn., not included.

⁵ Fargo, N. Dak., not included.

INFLUENZA DEATH RATES

| 95 cities..... | ¹ 5 | 5 | 4 | 3 | 6 | 6 | 7 | 5 | ¹ 7 | 6 |
|-------------------------|----------------|----|----|----|----|----|----|----|-----------------|----|
| New England..... | 0 | 0 | 2 | 0 | 5 | 0 | 7 | 5 | ¹ 10 | 2 |
| Middle Atlantic..... | 4 | 4 | 5 | 2 | 2 | 4 | 7 | 0 | 4 | 8 |
| East North Central..... | 5 | 2 | 4 | 1 | 3 | 5 | 5 | 1 | 7 | 3 |
| West North Central..... | 10 | 4 | 2 | 2 | 2 | 8 | 2 | 4 | ¹ 2 | 2 |
| South Atlantic..... | ¹ 7 | 9 | 4 | 11 | 7 | 4 | 9 | 4 | 4 | 7 |
| East South Central..... | 16 | 0 | 10 | 11 | 5 | 27 | 16 | 11 | 10 | 11 |
| West South Central..... | 8 | 17 | 4 | 8 | 29 | 21 | 8 | 8 | 29 | 13 |
| Mountain..... | 0 | 9 | 0 | 0 | 9 | 27 | 18 | 45 | 9 | 9 |
| Pacific..... | 3 | 10 | 0 | 0 | 24 | 7 | 7 | 3 | 17 | 3 |

PNEUMONIA DEATH RATES

| 95 cities..... | ¹ 63 | 60 | 66 | 58 | 66 | 56 | 84 | 65 | ¹ 79 | 71 |
|-------------------------|-----------------|-----|----|----|-----|----|-----|----|-----------------|-----|
| New England..... | 62 | 40 | 76 | 70 | 60 | 58 | 51 | 81 | ¹ 67 | 95 |
| Middle Atlantic..... | 69 | 60 | 74 | 69 | 75 | 62 | 105 | 71 | 94 | 72 |
| East North Central..... | 64 | 53 | 59 | 44 | 51 | 41 | 76 | 56 | 67 | 49 |
| West North Central..... | ¹ 43 | 46 | 41 | 25 | 41 | 33 | 59 | 41 | ¹ 43 | 60 |
| South Atlantic..... | ¹ 64 | 76 | 84 | 65 | 77 | 65 | 91 | 56 | 91 | 106 |
| East South Central..... | 37 | 106 | 47 | 85 | 120 | 90 | 94 | 85 | 105 | 48 |
| West South Central..... | 70 | 59 | 12 | 68 | 98 | 93 | 98 | 68 | 78 | 68 |
| Mountain..... | 44 | 99 | 71 | 54 | 35 | 81 | 62 | 72 | 115 | 117 |
| Pacific..... | 61 | 86 | 91 | 66 | 64 | 45 | 47 | 69 | 54 | 83 |

¹ Lynchburg, Va., not included.

² Hartford, Conn., and Fargo, N. Dak., not included.

⁴ Hartford, Conn., not included.

⁵ Fargo, N. Dak., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities of each group, approximated as of July 1, 1928 and 1927, respectively

| Group of cities | Number of cities reporting cases | Number of cities reporting deaths | Aggregate population of cities reporting cases | | Aggregate population of cities reporting deaths | |
|-------------------------|----------------------------------|-----------------------------------|--|------------|---|------------|
| | | | 1928 | 1927 | 1928 | 1927 |
| Total..... | 101 | 95 | 31,657,000 | 31,050,300 | 30,960,700 | 30,369,500 |
| New England..... | 12 | 12 | 2,274,400 | 2,242,700 | 2,274,400 | 2,242,700 |
| Middle Atlantic..... | 10 | 10 | 10,732,400 | 10,594,700 | 10,732,400 | 10,594,700 |
| East North Central..... | 16 | 16 | 7,991,400 | 7,820,700 | 7,991,400 | 7,820,700 |
| West North Central..... | 12 | 10 | 2,683,500 | 2,634,500 | 2,566,400 | 2,518,500 |
| South Atlantic..... | 21 | 21 | 2,981,900 | 2,890,700 | 2,981,900 | 2,890,700 |
| East South Central..... | 7 | 6 | 1,048,300 | 1,028,300 | 1,060,100 | 980,700 |
| West South Central..... | 8 | 7 | 1,307,600 | 1,260,700 | 1,274,100 | 1,227,800 |
| Mountain..... | 9 | 9 | 591,100 | 581,600 | 591,100 | 581,600 |
| Pacific..... | 6 | 4 | 2,046,400 | 1,996,400 | 1,548,900 | 1,512,100 |

FOREIGN AND INSULAR

THE FAR EAST

Report for the week ended October 6, 1928.—The following report for the week ended October 6, 1928, was transmitted by the eastern bureau of the health section of the secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva.

Plague, cholera, or smallpox was reported at the following ports:

PLAGUE

India.—Rangoon.
Kenya.—Mombasa.

CHOLERA

India.—Calcutta, Madras, Tuticorin, Bombay.
Siam.—Bangkok.
China.—Shanghai.

SMALLPOX

India.—Bombay, Madras, Negapatam, Calcutta.
French India.—Pondicherry.
Indo-China.—Saigon, Pnompenh.
Dutch East Indies.—Belawan Deli, Surabaya.
China.—Hong Kong.
Australia.—Port Darwin.

CANADA

Provinces—Communicable diseases—Week ended October 13, 1928.—The Department of Pensions and National Health reports cases of certain communicable diseases from seven Provinces of Canada for the week ended October 13, 1928, as follows:

| Disease | Nova Scotia | New Brunswick | Quebec | Ontario | Manitoba | Saskatchewan | Alberta | Total |
|--------------------------|-------------|---------------|--------|---------|----------|--------------|---------|-------|
| Cerebrospinal fever..... | | | 1 | 1 | 1 | | 1 | 4 |
| Influenza..... | 12 | | | | | | | 12 |
| Polio-myelitis..... | | | 3 | 4 | 14 | 1 | 2 | 24 |
| Smallpox..... | | | 19 | 10 | | 1 | | 30 |
| Typhoid fever..... | 1 | 4 | 21 | 29 | 4 | | 5 | 64 |

Quebec—Communicable diseases—Week ended October 13, 1928.—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended October 13, 1928, as follows:

| Disease | Cases | Disease | Cases |
|-------------------------------|-------|---------------------|-------|
| Cerebrospinal meningitis..... | 1 | Polio-myelitis..... | 3 |
| Chicken pox..... | 42 | Scarlet fever..... | 77 |
| Diphtheria..... | 45 | Smallpox..... | 19 |
| Influenza..... | 3 | Tuberculosis..... | 52 |
| Measles..... | 20 | Typhoid fever..... | 21 |
| Mumps..... | 3 | Whooping cough..... | 17 |

ITALY

Communicable diseases—May 21–June 17, 1928.—During the four weeks ended June 17, 1928, communicable diseases were reported in the Kingdom of Italy as follows:

| Diseases | May 21-27 | | May 28-June 3 | | June 4-10 | | June 11-17 | |
|-------------------------------|-----------|-------------------|---------------|-------------------|-----------|-------------------|------------|-------------------|
| | Cases | Communes affected | Cases | Communes affected | Cases | Communes affected | Cases | Communes affected |
| Anthrax..... | 10 | 10 | 17 | 17 | 19 | 18 | 19 | 18 |
| Cerebrospinal meningitis..... | 9 | 8 | 10 | 10 | 12 | 11 | 11 | 11 |
| Chicken pox..... | 159 | 94 | 234 | 93 | 216 | 112 | 342 | 160 |
| Diphtheria..... | 264 | 180 | 270 | 168 | 205 | 139 | 267 | 169 |
| Dysentery..... | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| Lethargic encephalitis..... | 6 | 4 | 3 | 3 | 7 | 7 | 5 | 5 |
| Measles..... | 2,212 | 361 | 2,636 | 408 | 1,904 | 354 | 2,947 | 426 |
| Poliomyelitis..... | 17 | 15 | 6 | 5 | 13 | 12 | 11 | 9 |
| Rabies..... | | | | | 1 | 1 | 1 | 1 |
| Scarlet fever..... | 223 | 101 | 302 | 113 | 258 | 109 | 368 | 145 |
| Smallpox..... | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 2 |
| Typhoid fever..... | 213 | 136 | 239 | 143 | 230 | 142 | 336 | 201 |

LATVIA

Communicable diseases—May–August, 1928.—During the four months from May 1 to August 31, 1928, communicable diseases were reported in Latvia as follows:

| Disease | Cases | | | | Disease | Cases | | | |
|-------------------------------|-------|------|------|--------|----------------------|-------|------|------|--------|
| | May | June | July | August | | May | June | July | August |
| Cerebrospinal meningitis..... | 4 | 6 | 4 | 7 | Puerperal fever..... | 6 | 1 | | 2 |
| Diphtheria..... | 32 | 38 | 30 | 23 | Rabies..... | | 1 | | |
| Dysentery..... | | 1 | 2 | | Scarlet fever..... | 189 | 123 | 79 | 58 |
| Erysipelas..... | 31 | 25 | 11 | 17 | Scurvy..... | 2 | | 1 | |
| Influenza..... | 26 | 28 | 6 | 9 | Smallpox..... | | 1 | 1 | |
| Leprosy..... | 2 | 3 | 1 | 1 | Tetanus..... | | | 1 | 5 |
| Lethargic encephalitis..... | | | | 1 | Trachoma..... | 29 | 23 | 25 | 7 |
| Malaria..... | 5 | 3 | 3 | 1 | Tuberculosis..... | | | 69 | |
| Measles..... | 1,507 | 900 | 401 | 98 | Typhoid fever..... | 65 | 66 | 66 | 83 |
| Mumps..... | 61 | 17 | 11 | 32 | Typhus fever..... | 1 | 2 | | |
| Paratyphoid fever..... | | | 4 | | Whooping cough..... | 100 | 74 | 73 | 49 |
| Polioencephalitis..... | | | | 2 | | | | | |

VIRGIN ISLANDS

Communicable diseases—September, 1928.—During the month of September, 1928, cases of communicable diseases were reported in the Virgin Islands, as follows:

| St. Thomas and St. John: | Cases | St. Croix: | Cases |
|---------------------------|-------|-------------------|-------|
| Gonorrhea..... | 2 | Uncinariasis..... | 9 |
| Pellagra..... | 1 | | |
| Syphilis (secondary)..... | 1 | | |
| Tuberculosis..... | 1 | | |
| Uncinariasis..... | 1 | | |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, health section of the League of Nations, and other sources. The reports contained in the following table must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given:

CHOLERA

[C indicates cases; D, deaths; P, present]

[illegible]

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

CHOLERA—Continued

[C indicates cases; D, deaths; P, present]

| Place | Week ended— | | | | | | | | | |
|------------------------------------|--------------|----|-----|----|----|-----------------|----|----|----|--------------------|
| | August, 1928 | | | | | September, 1928 | | | | |
| | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | Oct. 6, 1928 |
| India (French): | | | | | | | | | | |
| Chandernagor..... | 2 | 1 | 3 | 3 | 12 | 2 | 1 | 1 | 2 | 4 |
| Karikal..... | 1 | 1 | 1 | 1 | 1 | 13 | 1 | 1 | 2 | 3 |
| Pondicherry Province..... | 3 | 6 | 10 | 11 | 14 | 9 | 7 | 2 | 2 | 18 |
| Indo-China (see also table below): | 3 | 8 | 17 | 44 | 49 | 20 | 35 | 28 | 18 | 10 |
| Frampenh..... | 3 | 6 | 11 | 25 | 18 | 17 | 18 | 14 | 10 | |
| Saigon..... | 5 | 4 | 1 | 1 | 1 | 1 | 2 | 1 | | |
| Tourane..... | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Japan: | | | | | | | | | | |
| Osaka..... | 16 | 96 | 116 | 15 | 6 | 2 | 1 | | | |
| Kwangchow-Wan (see table below). | 8 | 59 | 76 | 9 | 1 | 1 | | | | |
| Persian Gulf: | | | | | | | | | | |
| Island of Henjam..... | | | | | | | | | | |
| Jask..... | | | | | | | | | | |
| Philippine Islands: | | | | | | | | | | |
| Bulacan Province— | | | | | | | | | | |
| Malolos..... | | | | | | | | | | |
| Pamabong..... | | | | | | | | | | |
| Cagayan Province..... | 1 | 1 | 1 | 1 | | | | | | |
| Ballesteros..... | | | | | | | | | | |
| Pamplona..... | | | | | | | | | | |
| Sanchez-Mira..... | | | | | | | | | | |
| Cebu (port)..... | 1 | 1 | 1 | 1 | 2 | | | | | |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE

[C indicates cases; D, deaths; P, present]

| Place | Week ended— | | | | | | | | | | | |
|---|--------------|-----|-----|-----------------|---|---|---------------|----|----|---|----|----|
| | August, 1928 | | | September, 1928 | | | October, 1928 | | | | | |
| | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | 6 | 13 | 20 |
| Algeria (see also table below): | | | | | | | | | | | | |
| Algiers | | | | | | | | | | | | |
| Oran | | | | 1 | | | | | | | | |
| Philippeville | | | | | | | | | | | | |
| Arabia: Aden | 343 | 651 | 224 | 7 | | | | | | | | |
| | 200 | 529 | 191 | 9 | | | | | | | | |
| Plague-infected rats | P | | | | | | | | | | | |
| Argentina: | | | | | | | | | | | | |
| Avellaneda | | | | 1 | | | | | | | | |
| Buenos Aires | | | | 6 | | | | | | | | |
| | | | | 1 | | | | | | | | |
| Cardoba Province | | | | 3 | | | | | | | | |
| Entre Rios | | | 5 | | | | | | | | | |
| Lereto | | | | | | | | | | | | |
| Rosario | | | | 3 | | | | | | | | |
| Santa Fe | 1 | | | 1 | | | | | | | | |
| Santiago del Estero | | | | 9 | | | | | | | | |
| Suarez | 1 | | | 10 | | | | | 7 | | | |
| Azores: St. Michaels Island | 3 | 3 | 5 | 2 | | | | | | | | |
| | 1 | 2 | 2 | 1 | | | | | | | | |
| Brazil: | | | | | | | | | | | | |
| Bahia | 24 | 28 | 6 | 3 | | | | | | | | |
| | 10 | 21 | 6 | 3 | | | | | | | | |
| Porto Alegre | 1 | | | | | | | | | | | |
| Rio de Janeiro | 3 | | | | | | | | | | | |
| | 2 | | | | | | | | | | | |
| British East Africa (see also table below): | | | | | | | | | | | | |
| Tanganyika | 3 | | | | | | | | | | | |
| | 3 | | | | | | | | | | | |
| | 13 | 13 | 10 | 64 | 1 | | | | | | | |
| Uganda | 10 | | | 70 | | | | | | | | |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

| Place | Week ended— | | | | | | | | | | | | | |
|--------------------------------------|--------------|---------|---------|--------|-----------------|-----|-----|-----|---------------|-----|-----|----|--|--|
| | August, 1928 | | | | September, 1928 | | | | October, 1928 | | | | | |
| | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | 6 | 13 | 20 | | |
| Egypt—Continued. | | | | | | | | | | | | | | |
| Port Said..... | | 1 | | | | | | | | | | | | |
| Sidi Barani..... | | 10 | | | 1 | | | | | | | | | |
| Suez..... | | 8 | | | | | | | | | | | | |
| Plague-infected rats..... | | 1 | | | | | | | | | | | | |
| Tanta..... | | 2 | | | | | | | | | | | | |
| Greece: | | | | | | | | | | | | | | |
| Athens and Piræus..... | | | | | | | | | | | | | | |
| Corfu..... | | 1 | | | | | | | | | | | | |
| Patras..... | | 1 | | | | | | | | | | | | |
| Hawaii Territory: Hawaii: | | | | | | | | | | | | | | |
| Hamakua District— | | | | | | | | | | | | | | |
| Hamakua..... | 1 | | | | | | | | | | | | | |
| Plague-infected rats..... | | | | | | | | | | | | | | |
| Honokaa..... | | | | | | | | | | | | | | |
| Plague-infected rats..... | | | | | | | | | | | | | | |
| Kukuihaele..... | | | | | | | | | | | | | | |
| Plague-infected rats..... | | | | | | | | | | | | | | |
| Kukuihaele—Plague-infected rats..... | | | | | | | | | | | | | | |
| Paeuilo..... | | | | | | | | | | | | | | |
| India..... | | | | | | | | | | | | | | |
| Bassein..... | 23, 174 | 26, 079 | 18, 518 | 3, 272 | 367 | 587 | 267 | 353 | 547 | 769 | 563 | | | |
| Bombay..... | 16, 908 | 20, 907 | 17, 074 | 3, 183 | 345 | 340 | 167 | 240 | 293 | 328 | 292 | | | |
| Calcutta..... | 12 | 22 | 13 | 8 | 14 | 3 | | | | | | | | |
| Madras Presidency..... | 33 | 69 | 43 | 30 | 14 | 1 | 2 | 3 | 2 | 1 | 1 | | | |
| Plague-infected rats..... | 83 | 61 | 69 | 38 | 8 | 1 | 2 | 2 | 1 | 1 | 1 | | | |
| Calcutta..... | | 2 | | | | | | | | | | | | |
| Madras Presidency..... | 271 | 62 | 21 | 12 | 54 | 123 | 56 | 31 | 71 | 59 | 79 | | | |
| Calcutta..... | 212 | 46 | 12 | 6 | 25 | 51 | 19 | 25 | 37 | 24 | 36 | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Rangoon..... | C | 48 | 30 | 16 | 14 | 31 | 43 | 7 | 9 | 2 | 10 | 4 | 7 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Place | Jan- ary- March, 1928 | April, 1928 | May, 1928 | June, 1928 | July, 1928 | Aug- ust, 1928 | Sep- tem- ber, 1928 |
|--|--------------------------------|----------------|--------------|---------------|---------------|----------------------|------------------------------|
| Algeria (see also table above): | | | | | | | |
| Algiers..... | C | | | | | | |
| British East Africa (see also table above): | | | | | | | |
| Kenya..... | C | | | | | | |
| Uganda..... | C | | | | | | |
| Ecuador: Guayaquil..... | D | | | | | | |
| Plague-infected rats..... | | | | | | | |
| Indo-China (see also table above): | C | | | | | | |
| Kwangchow-Wan..... | C | | | | | | |
| Madagascar (see also table above): | | | | | | | |
| Ambositra Province..... | C | | | | | | |
| Antsirabe Province..... | C | | | | | | |
| Itasy Province..... | C | | | | | | |
| Moramanga Province..... | C | | | | | | |
| Madagascar—Continued. | | | | | | | |
| Tamatave..... | C | | | | | | |
| Tananarive Province..... | C | | | | | | |
| Nigeria (see also table above): | C | | | | | | |
| Peru..... | D | | | | | | |
| Lima..... | D | | | | | | |
| Senegal (see also table above): | D | | | | | | |
| Baol..... | D | | | | | | |
| Cayor..... | D | | | | | | |
| Rufisque..... | D | | | | | | |
| Thies..... | D | | | | | | |
| Tlissouane..... | D | | | | | | |
| Syria: Beirut..... | D | | | | | | |

RECEIVED BY THE BUREAU OF THE U.S. DEPARTMENT OF AGRICULTURE

RECEIVED BY THE BUREAU OF THE U.S. DEPARTMENT OF AGRICULTURE

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE RATS ON VESSELS

S. S. *Gudenore* at Landskrona, Sweden, from Rosario, via Canary Islands, January 22, 1928.
S. S. *Dryden* at Liverpool from La Plata River ports, January 20, 1928.
S. S. *Stilly* at Liverpool from Buenaos Aires and Rosario, June 8, 1928, 7 plague-infected rats.

S. S. Dryden at Liverpool from La Plata River ports, January 20, 1928.

S. S. Sicily at Liverpool from Buenos Aires and Rosario, June 8, 1928, 7 plague-infected rats,

SMALLPOX

[C indicates cases; D, deaths; P, present]

[illegible]

| | | | | | | | | | | | | | | | | |
|--|----|-----|----|----|----|----|---|---|---|---|---|---|---|----|----|-----|
| Quebec..... | 54 | 112 | 83 | 78 | 81 | 62 | 5 | 9 | 5 | 8 | 9 | 7 | 3 | 14 | 41 | 19 |
| Montreal..... | 9 | 3 | 9 | 3 | 11 | 44 | 4 | 3 | 4 | 1 | 3 | 2 | 5 | 2 | 3 | --- |
| Quebec..... | 13 | 10 | 23 | 47 | 52 | 55 | 4 | 3 | 4 | 1 | 3 | 2 | 5 | 2 | 3 | --- |
| Sherbrooke..... | 22 | 32 | 52 | 28 | 16 | 1 | 4 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 |
| Montreal..... | 13 | 3 | 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Quebec..... | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Ceylon: Colombo..... | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| China: | | | | | | | | | | | | | | | | |
| Amoy..... | 1 | 6 | 9 | 3 | 3 | | | | | | | | | | | |
| Amoy..... | 2 | 7 | 2 | 2 | 3 | | | | | | | | | | | |
| Canton..... | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | |
| Chiofo..... | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | |
| Foochow..... | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | |
| Hong Kong..... | 7 | 32 | 25 | 30 | 14 | 11 | 6 | 3 | 6 | 4 | 2 | 3 | 2 | 2 | 6 | --- |
| Manchuria..... | 4 | 19 | 26 | 23 | 19 | 5 | 5 | 1 | 5 | 5 | 1 | 1 | 5 | 3 | 3 | --- |
| Changchun..... | | | | | | | | | | | | | | | | --- |
| Fushun..... | | | 4 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | --- |
| Harbin..... | 7 | 7 | 10 | 27 | 31 | 11 | | | | | | | | | | --- |
| Kwantung..... | | | | | | | | | | | | | | | | --- |
| Dairen..... | 13 | 15 | 16 | 35 | 48 | 21 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | --- |
| Port Arthur..... | 7 | 8 | | | 20 | 12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | --- |
| Mukden..... | 21 | 1 | 4 | 3 | 6 | | | | | | | | 2 | | | --- |
| Penshiu..... | | | | | | | | | | | | | | | | --- |
| South Manchuria Railway Zone..... | | | | | | | | | | | | | | | | --- |
| Shanghai..... | | | | | | | | | | | | | | | | --- |
| Foreigners only..... | 6 | 7 | 3 | 11 | 7 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | --- |
| Including natives..... | 19 | 9 | 19 | 11 | 11 | 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | --- |
| Tientsin..... | 20 | 18 | 17 | 9 | 14 | 1 | | | | | | | | | | --- |
| Chosen (see table below). Curacao (alastim) Dominican Republic: Santo Domingo. Dutch East Indies: Balkpapan..... | 3 | 2 | 1 | | | 2 | | | | | | | | | | --- |
| Belawa Del..... | | | | | | 7 | | | | | | | | | | --- |
| Borneo-Pontianak..... | | | | | 11 | 2 | 5 | 1 | 2 | 1 | 2 | 5 | 5 | 2 | 5 | --- |
| Samatinda..... | 1 | 1 | | | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | --- |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates case; D, deaths; P, present]

| Place | Feb. 12- Mar. 11- 10, Apr. 7, 1928 | Mar. 11- Apr. 7, 1928 | Apr. 8- May 6- May 3, Jun. 2, 1928 | June 3-20, 1928 | July 1-28, 1928 | Week ended— | | | | | | | | | |
|-----------------------------------|---|-----------------------------|---|--------------------|--------------------|--------------|-----|-----|-----|-----|-----------------|----|-----|----|------------------|
| | | | | | | August, 1928 | | | | | September, 1928 | | | | |
| | | | | | | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | October, 1928 |
| Dutch East Indies—Continued. | | | | | | | | | | | | | | | |
| Java..... | | | | | | | | | | | | | | | |
| Batavia and West Java..... | C | 2 | 5 | 1 | 2 | 2 | 2 | 4 | 3 | | | | 1 | | |
| East Java and Madura..... | C | 9 | 2 | 2 | | 2 | 1 | 1 | | | | | 1 | | |
| Surabaya..... | D | 1 | | 2 | | 1 | 3 | 2 | | | | 3 | 1 | | |
| Sumatra..... | D | | | | | 1 | | | | | | | | | |
| Medan..... | C | 14 | 7 | 2 | 10 | 5 | 5 | 1 | 2 | 1 | 2 | 5 | | | |
| Palembang..... | D | 2 | 5 | 3 | 5 | 2 | 2 | 1 | | | | | | | |
| Ecuador (see table below)..... | | | | | | | | | | | | | | | |
| Egypt..... | C | 2 | 32 | 12 | 1 | | | | | | | | | | |
| Behera Province..... | C | 33 | 7 | 1 | | | | | | | | | | | |
| France (see table below)..... | | | | | | | | | | | | | | | |
| Gold Coast (see table below)..... | | | | | | | | | | | | | | | |
| Great Britain..... | | | | | | | | | | | | | | | |
| England and Wales..... | C | 1,473 | 1,341 | 1,344 | 1,199 | 1,140 | 126 | 111 | 114 | 141 | 102 | 92 | 113 | 94 | 130 |
| Birmingham..... | C | 3 | 1 | 1 | 1 | 2 | 1 | | | | | | 1 | | |
| Bradford..... | C | 12 | 19 | 14 | 17 | 10 | 2 | | | 2 | 1 | | | | |
| Bristol..... | C | 4 | 12 | 17 | 10 | 2 | | | | | | | | | |
| Cardiff..... | C | 5 | 3 | 3 | 2 | | | | | | | | | | |
| Castleford..... | C | 4 | 36 | 69 | 24 | 18 | 6 | 2 | 1 | 1 | 1 | 3 | 1 | 4 | 1 |
| Hull..... | C | 1 | 1 | 1 | 1 | 1 | 6 | 2 | 3 | 4 | 6 | 3 | 1 | 3 | 2 |
| Leeds..... | C | 9 | 14 | 1 | 1 | 8 | 1 | 2 | | 4 | 1 | 1 | 1 | | |
| Liverpool..... | C | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | |
| London..... | C | 14 | 17 | 42 | 25 | 96 | 3 | 5 | 1 | | 3 | 3 | 3 | 4 | 5 |
| Manchester..... | C | 8 | 14 | 8 | 5 | 1 | | | | | | | | 1 | |
| Newcastle-on-Tyne..... | C | 12 | 9 | 4 | 12 | 6 | 28 | 1 | 1 | | 6 | 2 | 6 | 1 | 1 |
| Nottingham..... | C | 11 | 13 | 17 | 20 | 3 | 6 | 3 | 5 | 2 | 1 | 1 | 1 | 1 | 2 |
| Plymouth..... | C | | | | | | | 6 | 6 | | | | | | |
| Sheffield..... | C | 6 | 1 | 14 | 4 | 2 | 2 | 1 | 1 | | | 1 | 1 | 3 | |
| Stoke-on-Trent..... | C | 15 | 12 | 32 | 24 | 14 | 4 | 4 | | | | | | | |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

| Place | Week ended— | | | | | | | | | | | | | | | | | |
|--|------------------------------|-----------------------------|---------------------------|---------------------------|--------------------|--------------------|--------------|----|----|----|---|-----------------|----|----|----|------------------|---|----|
| | Feb. 12- Mar. 10, 1928 | Mar. 11- Apr. 7, 1928 | Apr. 8- May 5, 1928 | May 6- June 2, 1928 | June 3-30, 1928 | July 1-28, 1928 | August, 1928 | | | | | September, 1928 | | | | October, 1928 | | |
| | | | | | | | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | | 6 | 13 |
| Japan—Continued. | | | | | | | | | | | | | | | | | | |
| Tokyo prefecture (outside city)..... | C | | | | | | | | | | | | | | | | | |
| Yokohama..... | D | 24 | 1 | 2 | 3 | | | | | | | | | | | | | |
| Latvia (see table below). | D | 1 | 2 | 3 | 1 | | | | | | | | | | | | | |
| Malta: Valetta..... | C | | | | | | | | | | | | | | | | | |
| Mauretania..... | C | P | | | | | | | | | | | | | | | | 1 |
| Mexico (see also table below): | | | | | | | | | | | | | | | | | | |
| Acapulco..... | D | | | | 2 | | | | | | | | | | | | | |
| Jalisco (State)..... | D | | | 2 | 2 | | | | | | | | | | | | | |
| Guadalajara..... | P | P | P | 13 | 21 | | | | | | | | | | | | | |
| Manzanillo..... | D | 1 | 2 | 10 | 10 | | | | | | | | | | | | | |
| Manzanil..... | D | | | | | | | | | | | | | | | | | |
| Mexico City and surrounding territory..... | D | 1 | 1 | 2 | 2 | | | | | | | | | | | | | |
| Reynosa..... | D | | | | 1 | | | | | | | | | | | | | |
| Saltillo..... | D | | | | 1 | | | | | | | | | | | | | |
| San Luis Potosi..... | D | | | | 2 | | | | | | | | | | | | | |
| Tampico..... | D | | | | | | | | | | | | | | | | | |
| Torreón..... | D | 1 | | | | | | | | | | | | | | | | |
| Morocco (see table below). | | | | | | | | | | | | | | | | | | |
| Nigeria (see also table below): | | | | | | | | | | | | | | | | | | |
| Lagos..... | C | 1 | | | 1 | | | | | | | | | | | | | |
| Southern Provinces..... | D | 7 | 93 | | 51 | | | | | | | | | | | | | |
| Poland..... | D | 35 | | | 12 | | | | | | | | | | | | | |
| Persia (see table below). | | | | | | | | | | | | | | | | | | |
| Portugal (see also table below): | | | | | | | | | | | | | | | | | | |
| Lisbon..... | C | 1 | 1 | 1 | 3 | 2 | | | | | | | | | | | | |
| Oporto..... | D | 20 | 5 | 6 | 7 | 8 | | | | | | | | | | | | |
| | D | 1 | | 1 | 1 | 1 | | | | | | | | | | | | |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

| Place | January, 1928 | | | | July, 1928 | | | | August, 1928 | | | | September, 1928 | | | | | | | | |
|---|--------------------------------|----------------|--------------|---------------|---------------|----------------------|--|-------|--------------|-----|------|-------|-----------------|------|-------|-------|--------------------------------|----------------|--------------|---------------------|----------------------|
| | Jan- ary- March, 1928 | April, 1928 | May, 1928 | June, 1928 | 1-10 | | 11-20 | | 21-31 | | 1-10 | 11-20 | 21-31 | 1-10 | 11-20 | 21-30 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Indo-China (see also table above)..... | C | C | C | C | 426 | 35 | 79 | 83 | 8 | 3 | 15 | 44 | 21 | 6 | 27 | 29 | 17 | | | | |
| Ivory Coast..... | D | D | D | D | | | 20 | 39 | | | | | | | 2 | | | | | | |
| Senegal (see also table above)..... | D | D | D | D | | 51 | 20 | 9 | | | | | | | | | | | | | |
| Dakar..... | D | D | D | D | | 11 | 24 | 8 | | | | | | | | | | | | | |
| Sudan (French)..... | D | D | D | D | | 8 | 7 | | | | | | | | | | | | | | |
| Syria..... | D | D | D | D | 15 | 4 | 30 | 20 | | 17 | | | | 55 | | | P | | | | |
| Aleppo..... | | | | | 1 | | 3 | | | | | | 4 | 33 | | | P | | | | |
| Beirut..... | C | C | C | C | 75 | 9 | 7 | 10 | 4 | 1 | | | | | | | | | | | |
| Damascus..... | D | D | D | D | 14 | | | | | | | | | | | | | | | | |
| Place | Jan- ary- March, 1928 | April, 1928 | May, 1928 | June, 1928 | July, 1928 | Aug- ust, 1928 | Place | | | | | | | | | | Jan- ary- March, 1928 | April, 1928 | May, 1928 | June, July, 1928 | Aug- ust, 1928 |
| Angola..... | 47 | 7 | 1 | | | | Latvia..... | 1 | | | | | | 1 | | 622 | 1 | | | | |
| Congo..... | 36 | | | | | | Mexico (see also table above)..... | 1,064 | 336 | 622 | | | | 1 | | 55 | | | | | |
| Cuana-Norte..... | C | C | C | C | | | Morocco..... | 132 | 19 | 25 | | | | 10 | | | | | | | |
| Cuana-Sul..... | C | C | C | C | | | Nigeria (see also table above)..... | 602 | 173 | 194 | | | | | | | | | | | |
| Brazil (see also table above); Porto Alegre..... | C | C | C | C | | | Persia..... | 84 | 46 | 83 | | | | | | | | | | | |
| Chosen..... | 1 | | | | | | Portugal (see also table above)..... | 7 | | | | | | | | | | | | | |
| Senul..... | 48 | 20 | 152 | 40 | | | Union of Socialist Soviet Republics: Railways, etc..... | 258 | 98 | 74 | | | | 82 | | | | | | | |
| Ecuador: Guayaquil..... | 16 | 6 | 38 | 21 | | | Other territories in Europe..... | 30 | 9 | 3 | | | | 10 | | | | | | | |
| France..... | 35 | 10 | 31 | 11 | | 35 | Transcaucasus, Siberia, and Central Asia..... | 59 | | | | | | | | | | | | | |
| Gold coast..... | 34 | 6 | 15 | 10 | | 10 | Ukraine..... | 1,717 | | | | | | | | | | | | | |
| Greece..... | 36 | 1 | 22 | 31 | | 9 | | 25 | | | | | | | | | | | | | |
| | 4 | | 1 | 2 | | 1 | | 27 | | | | | | | | | | | | | |

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

YELLOW FEVER

[C indicates cases; D, deaths; P, present]

| Place | Feb. 12- Mar. 10, 1928 | Mar. 11- Apr. 7, 1928 | Apr. 8- May 5, 1928 | May 6- June 2, 1928 | June 3-30, 1928 | July 1-28, 1928 | Week ended— | | | | | | | | | |
|---------------------------------------|------------------------------------|-----------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|--------------|----|----|----|---|-----------------|----|----|----|------------------|
| | | | | | | | August, 1928 | | | | | September, 1928 | | | | |
| | | | | | | | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | October, 1928 |
| Belgian Congo: Matsidi..... | C | | | 2 | 2 | | | | | | | | | | | |
| Brazil: | | | | | | | | | | | | | | | | |
| Aracaju..... | D | | | 2 | | 4 | | | | | | | | | | |
| Bahia..... | D | | | | | | | | 1 | | 1 | | | | | |
| Estancia..... | C | 1 | | | | | | | | | | | | | | |
| Pernambuco (Recife)..... | C | | | | | | | | | | | | | | | |
| Rio de Janeiro..... | C | | | | | | | | | | | | | | | |
| Sao Felix..... | C | | | 2 | 2 | 46 | 6 | 4 | 4 | | | 4 | 4 | 1 | 3 | |
| Dahomey: Grand Popo..... | C | | | | P | 21 | | | 2 | | | | | | | |
| Gold Coast..... | C | | | | 3 | | | | | | | | | | | |
| Ivory Coast..... | C | | | 2 | 2 | | | | | | | | | | | |
| Abidjan..... | C | | | | 1 | | | | | | | | | | | |
| Ferkessédougou..... | C | | | | 1 | | | | | | | | | | | |
| On vessel: | | | | | | | | | | | | | | | | |
| S. S. Bernini, at Santos, Brazil..... | D | | | | | 1 | 1 | | | | | | | | | 4 |
| | | | | | | | | | | | | | | | | 1 |